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The Journal of the Fire Protection Profession

MAY 1, 1929

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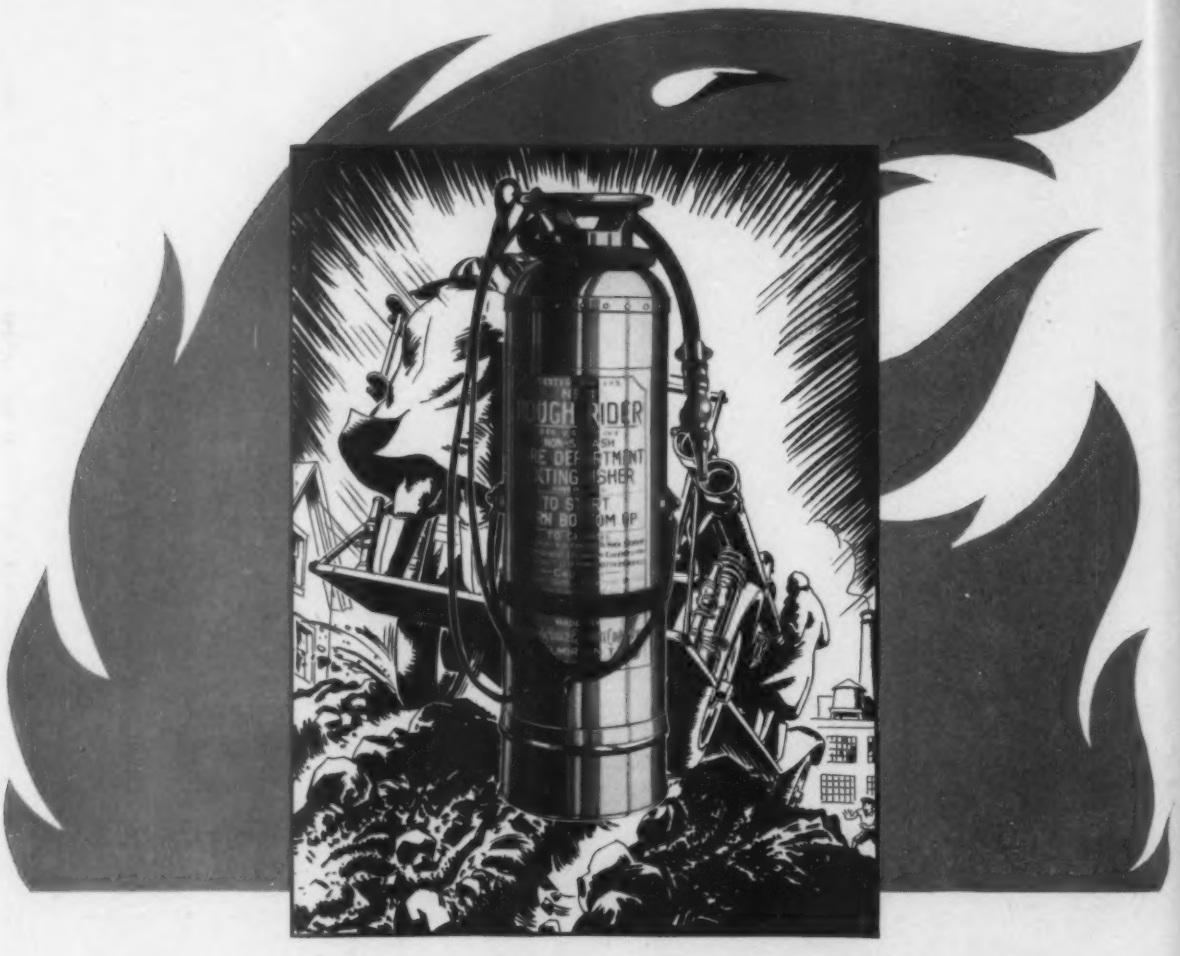

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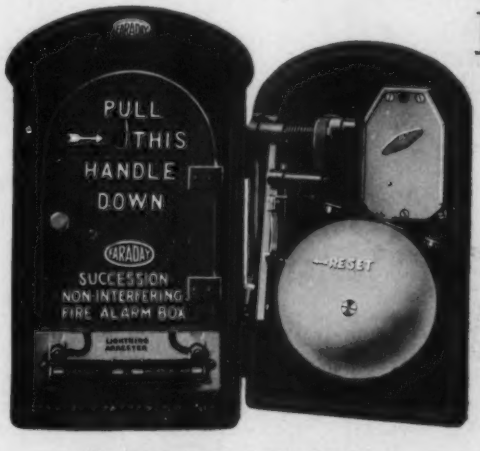

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Published Every Other Wednesday

SUBSCRIPTION PRICE
U. S. $3 a year; Canada $3.50
Foreign $4; Single copies, 25c.

Issued by CASE-SHEPPERD-MANN PUBLISHING CORPORATION
225 West 34th Street, New York City
Also publishers of "Water Works Engineering," Technical Books, etc.

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On Keeping Informed

¶ "We have such high morale and efficiency in our department," remarked a prominent fire chief recently, "because our men are encouraged in every way possible to work for promotion. It's really surprising how enthusiastically they study all available literature on fire subjects—how eagerly they try to learn more about their work."

¶ "With this spirit prevailing, I, too, find it very essential to keep thoroughly informed. At one time I thought with all my experience I knew all there was to know about the fire game. *But when the boys started asking questions that I had to evade* because of my inability to give any more than a vague, uncertain answer,—questions about the hydraulics of fire streams, the fire hazards of chemicals, the proper safeguard in building construction—and what not—I began to realize the necessity and importance of bringing my knowledge up-to-date."

¶ "Naturally I lean heavily on the splendid information I get out of FIRE ENGINEERING. I read every issue from cover to cover, ads and all, and it certainly has been a life-saver for me."

¶ This is interesting food for thought. What more need we add?

The Publishers

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Contents of this issue copyrighted, 1929, by the Case-Shepperd-Mann Publishing Corp., 225 W. 34th St., New York City.
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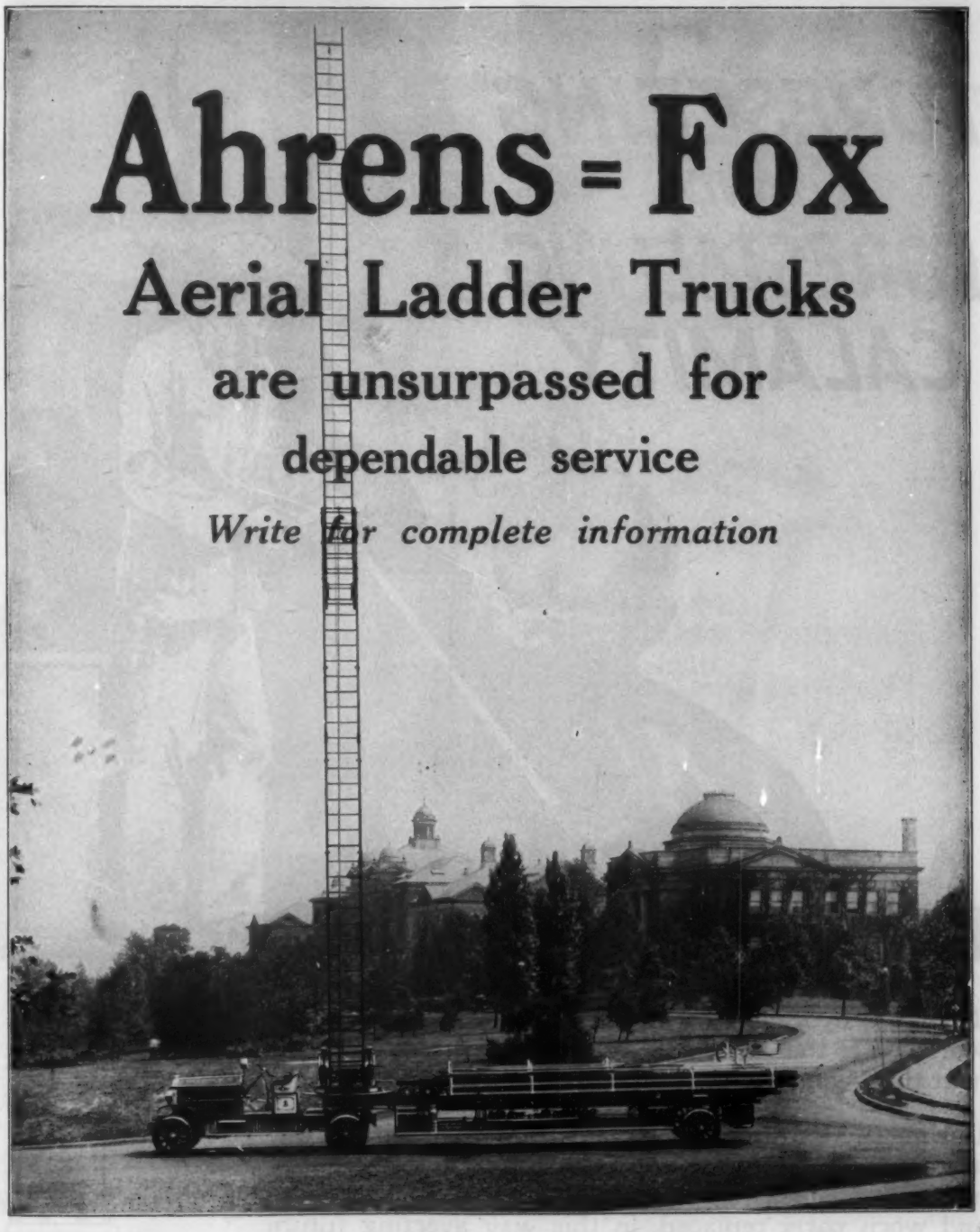

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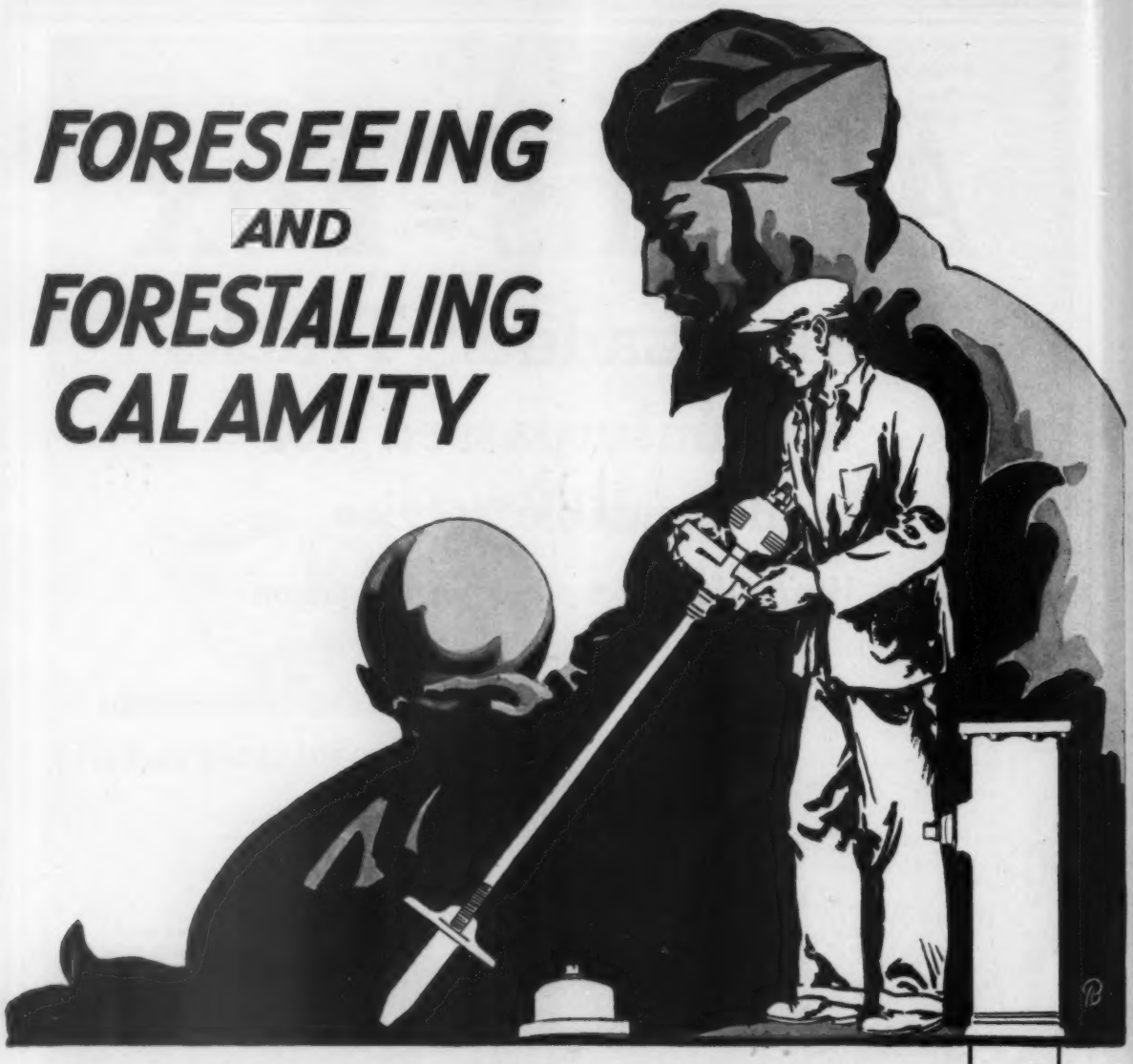

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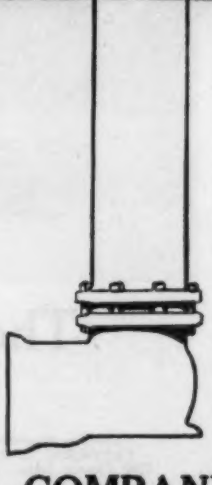

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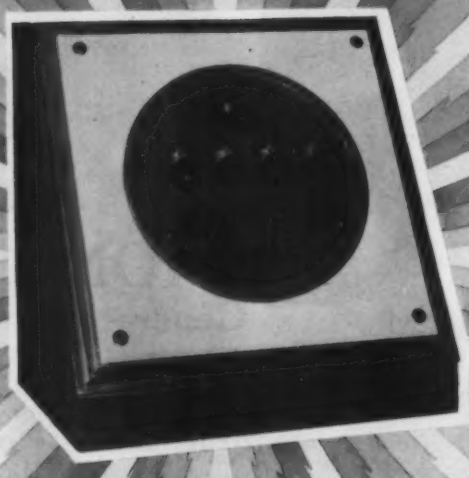

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The Journal of the Fire Protection Profession

VOLUME LXXXII MAY 1, 1929 NUMBER 9

Campaigning in the War Against Fire

The Chief Is the Field Marshal and the Fire Department Is the Army—Discipline and Training Are Most Necessary

By DEPUTY CHIEF JOHN J. T. WALDRON, New York Fire Department

IN this practical paper, which is full of suggestions as to methods of procedure in general fire fighting, the similarity between the operations of an army and the great fire-fighting forces is strongly emphasized:

The subject of general fire fighting is so similar to that of a general campaign of an army in the field that it may be treated best by translating the strategy and tactics of military work into fire department parlance, and applying the general outline and scope of principles to our practice.

Deputy Chief John J. T. Waldron

In fire departments, however, the Fire Chief is always a Field General as well as a Staff Officer upon whose shoulders rest the responsibility of executing as well as planning all work of organization and campaign.

This subject is so broad, involving as it does all the manifold activities of modern civilization that it cannot be treated with any extensive degree of detail in a paper such as this.

Fundamental Principles of General Fire Fighting

There are, however, certain fundamental principles that apply with equal force to a great metropolitan city, the moderate size city and the town or village. These principles are:

First: Ascertain what you have to protect; whether it is a city of six million, one hundred thousand, twenty-five thousand, or of ten thousand; whether it is a modern manufacturing plant, a great harbor with its docks, shipping, and so on.

Then make a careful estimate of the means which you have to protect the risks: i.e., the water supply, the apparatus delivering that water with force at fires, the number of men to handle the apparatus, discipline, drill, etc.

When these two are ascertained, the third and last principle is proficiency in the handling of the means provided for the prevention and extinguishment of fire.

Survey and Inspection Work

The survey and inspection work to ascertain the potentialities and hazards of the enemy, "Fire," are similar to the scout and intelligence system of the army.

The first alarm assignment is the "skirmish line" to cope with a small force, or fire.

The second, third, fourth and fifth alarms are the calling and placing a division in action.

The general alarm is the massing of the entire force in general attack, a major operation to defeat conflagration.

No assignment, whether the first alarm or "skirmish line" or the entire force, should ever be deployed or placed so as to be outflanked by the enemy, nor should there ever be a delay in summoning aid when the force in the field is inadequate to cope with the situation.

While small arm fire may be sufficient for minor engagements, as small streams from hand lines may suffice in ordinary fires within limited areas, a heavy barrage

> "NO assignment, whether the first alarm or 'skirmish line' or the entire force, should ever be deployed or placed so as to be outflanked by the enemy, nor should there ever be a delay in summoning aid when the force in the field is inadequate to cope with the situation. As the fire ground is no place for drill or experiment, training and discipline of the force must be prepared in advance at Drill School and by regular practice in company quarters."

will be needed for major attack as heavy streams from deck guns and water towers will be needed for penetration to inaccessible areas and to beat back and defeat waves of heat and flame which threaten surrounding properties.

Importance of Drill and Training

As the fire ground is no place for drill or experiment, training and discipline of the force as individuals and as units must be prepared in advance at Drill School and by regular practice in company quarters. Members must be ready to perform all routine and exceptional service promptly, and to utilize every means of auxiliary fire extinguishing equipment in buildings and industrial plants.

Responsibility of the Chief

Upon the Fire Chief devolves the task of foresight, scope in planning, strategy and tactics of Commander-in-Chief in an everlasting campaign.

The physical conditions, special hazards, conflagration possibilities, etc., of the various districts in the community are matters which must be within the general knowledge of the Fire Chief and within the detailed knowledge of the individual commanders assigned to such districts.

The general construction and occupancies of buildings in the various districts determine the type of apparatus and equipment, assignment for alarms, and strength of companies, which should be provided.

Determining Method of Attack

The first and universal policy for application in all fire departments at all fires is: "First CONFINE the fire, then move in and extinguish it." Error may be made in method of attack, when exposure or extension threatens other portions of premises or adjacent structures, if the initial efforts are not applied to confine the fire. When a fire has reached extensive proportions before the arrival of the apparatus, a "first alarm method of attack" is of little avail, and the protection of endangered property is of major importance. The first streams should be applied to cover exposures, and the call for additional aid should be transmitted promptly. In such cases, the first alarm assignment serves as a real "skirmish line" to hold the situation in check until the reinforcements arrive.

Must Know Water Supply

The knowledge of all water supply, its source, system, size and arrangement of street mains, pressures available normally and possibility of increased pressure in emergency, together with the capacities and greatest utilization of the pumping apparatus of fire companies, are matters with which all commanding officers of the fire department should be familiar, and in all practical operations at fires, these factors must be applied to secure the maximum results. Placement of pumpers on mains with inadequate supply when larger mains are available, use of small hydrant suction instead of large suction, nozzles of too great a diameter when pressure supply is lacking, etc., are among the serious mistakes to be avoided if real efficiency is to be achieved.

Ventilation and Placing of Apparatus Important

The necessity and purpose of prompt and adequate ventilation of structures involved or endangered at fires is an accepted primary factor by fire chiefs, and one of the important matters in general fire fighting. The regular training and drill of members should include practical lessons in this work, and the chief officers at fires should see that such practice is applied properly and promptly at all times.

In placing apparatus at fires, the actual fire front or sides where mobile action of lines will be required must be kept clear of all unnecessary apparatus; those pieces of apparatus actually required on front or sides of any premises for deck gun or water tower streams must be placed, not only as to afford proper angle for reach and coverage of streams, but also as to cause the least possible interference with other apparatus or operation on the scene.

In smaller communities, where the number of fire companies may be limited, a plan of co-operative and mutual protection for emergencies should be evolved with all surrounding towns and villages. Such plan should be the joint work of all fire chiefs in the locality, a standard system of operation prepared and understood in advance, a pre-arranged signal controlled solely by the fire chiefs themselves to be provided for to prevent undue interference by unauthorized officials or others, and mutual exchange of information as to adaptability of all hose, hydrant and other connections to be made, to the end that no delay in aid will result when need demands.

Standardization of methods of operation and adaptability of apparatus and appliances in each of the many localities of a county or State, may with the help of the state associations lead to a national standard in fire department work, and thus achieve one of the major objects of the national and district associations.

(From a paper read before the annual convention of the Eastern Association of Fire Chiefs.)

The Fireboat "Alki" in Action at Seattle

The "Alki" part of the fire defenses of Seattle, Wash., can deliver 12,000 gallons a minute. This is greatly in excess of the capacity of most fireboats now in service in many cities. The skyline of the city is in the background.

Fire Uncovers Large Distillery

One of the largest illicit alchohol distilling plants ever found in Vermont, was discovered when fire destroyed a barn on a farm, near Essex Junction.

The fire department was called at 8 a. m. When the men arrived they found the smallest of three closely grouped wooden barns, a mass of flames. Evidently the fire had been burning for some time before it was discovered. With a temperature of ten degrees below zero and no available water supply, the department had a difficult fight to save the other buildings. Chief W. W. Putman, was able to prevent the flames from spreading.

When the walls and roof of the barn fell, a distilling plant was disclosed that consisted of six mash vats each of about one hundred cubic feet capacity, a large steam boiler, two large cooking vats and other equipment that was valued between five and eight thousand dollars. The county sheriff was notified. One hundred gallons of liquid that was found to be 180 proof grain alcohol was removed from one still.

Holbrook, Mass., May Buy Ladder Truck—Holbrook, Mass., is planning the purchase of a ladder truck.

Fig. 1—Top Floor Is the Danger Point of All Old Type Tenements. This Floor Is Usually First Involved by Fire Rising Through Shafts and It Is on This Floor That the Greatest Loss of Life Occurs.

The Old Tenement—A Life Trap

More Lives Lost in This Type of Building Than in Any Other; Top Floor the Danger Point

THE old type tenement, of brick and joist construction, with open stairway leading from basement to top floor has long been recognized as a life tray. Fire starting either in the basement, or on the ground floor, and involving the stairwell immediately rises to the top floor, and mushrooming on this floor, cuts off the escape of those occupants of rooms thereon. The wooden construction of the stairs as well as the presence of carpet thereon speeds up the travel of fire and hastens the destruction of the stairway.

Rooms from all apartments communicate to the stair hall and in the event of fire the first attempt is naturally made by means of the stairway.

Loss of life usually occurs in the hours around midnight and in the majority of cases, is confined to the top floor. The heat and smoke accumulates at the top of the stairwell and when smoke is detected by any of the persons in rooms on this floor they usually open the doors leading to the stair hall to find out where the smoke is coming from. Being struck by a hot blast, they usually flee from the doors leaving them open with the result that many cases of suffocation occur.

Fires in old type tenements usually start either in the basement or on the ground floor under the stairway. Where the fire starts in the basement it has a great deal of material in which to burn, including wood bins, coal bins, frame storerooms, together with a great quantity of furniture and junk stored therein.

Fires starting under the stairway on the ground floor usually originate from matches or cigarettes being carelessly tossed beneath the stairway and landing in combustible materials, such as baby carriages, etc., commonly stored thereunder.

The old type tenement is built to burn fast. It usually possesses a number of shafts extending from the basement to the roof, such as dumbwaiters, ventilating and light shafts. Dumbwaiter and ventilating shafts are invariably finished with lath and plaster, while the light shaft may be likewise, although in many cases it is an interior shaft finished in brick.

In any case, fire reaching a shaft quickly rises to the top of the building and the department has a serious problem on hand.

The method of operating on a fire in an old type tenement house may fall into two classifications; where life is in danger, and where there is no life hazard. In this first instance, the first truck company arriving at the fire gets ladders in position at once to the fire escapes front and rear, placing additional ladders, if needed, to upper floors. If fire has gained considerable headway and there is a possibility of trapped persons jumping, life nets have to be brought into play.

A man from the first company arriving at the fire is usually sent to the roof at once to remove scuttle covering and open up the skylights. This is absolutely essential, for if not promptly accomplished there is extreme danger of the persons on the top floor being either suffocated or burned to death. The function of ventilating in this case is to draw the heat and smoke together with fire up a definite channel and enable the persons trapped in the building to get to the street.

If the building is of large area or heavy occupancy, the

Fig. 4 (Above)—The Old Type Tenement Roof After a Fire. Note Scuttle Removed and Sky Lights Opened. Fireman Is Using Claw Tool in Opening Up Concealed Spaces to Make Sure That No Fire Still Remains. Fig. 3 (to Right)—The Stairwell in an Old Type Tenement After a Fire. This Picture Illustrates Very Well the Highly Combustible Nature of Interior Construction of Old Tenements.

rescue of all persons may devolve upon the department saving the stairway. This can ofttimes be done if ventilation is promptly accomplished and if lines are stretched at once in on the ground floor, one of the streams being directed up the stairwell to kill the body of the fire above and to save the stairwell for the use of the department and of the occupants. In such a case two lines are usually stretched in by the first company, one to operate up the stairwell and follow the fire up, while the second line kills the fire on the ground floor and prevents its coming up from the basement, if it has originated in the basement. In any case the quick operation of streams in the stairwell is essential in life saving operations.

Insofar as bringing the fire on the top floor under control, incidental to saving life, it should be remembered that while apparently all persons may have escaped, through the assistance of the fire department to the street, there may be some who have been overcome by smoke and the saving of these lives is just as important as the saving of lives of those who are able to take care of themselves.

Thus practice calls for a line to the top floor at once in the event that the top floor has become involved due to fire rising in the stairwell or other shaft. Fire may involve the upper floors by rising through dumb waiter shaft, but such would not be as serious as where the stairwell has become involved, due to the fact that fire rising in the stairwell cuts off the escape of the persons in the various apartments whereas a fire burning up any of the other shafts does not immediately accomplish this. Thus a line may be sent by ladder to the top floor, if it cannot make the stairway inside, while the occupants of the top floor are escaping to the street by means of fire escapes or ladders placed by the department.

Assuming that fire occurs during the daytime, and that

(*Continued on page 377*)

Fire Department Salaries in 1929

Series of Tables Showing Amounts Paid All Grades of the Fire Department in January of This Year

FOLLOWING are the second of a series of tables giving valuable information as to the salaries which prevailed in fire departments in all parts of the United States and Canada as of January, 1929, for all grades from the Chief to first year privates, and including Deputy or Assistant Chiefs, District or Batalion Chiefs, Captains, Lieutenants, Master Mechanics, Engineers, Chauffeurs, Electricians, Fire Alarm Operators and the Secretary to the Chief. The cities are arranged according to population.

These tables have been compiled by and are published through the courtesy of the International Association of Fire Fighters.

SALARIES THAT PREVAIL IN FIRE DEPARTMENTS IN THE UNITED STATES AND CANADA, JANUARY, 1929.

City.	Population.	No. of Men.	Chief.	Deputy or Asst. Chief.	District or Battalion Chief.	Captains.	Lieutenants.	Maximum pay.	3d year.	2d year.	1st year.	Master Mechanic.	Engineers.	Chauffeurs.	Electricians.	Fire Alarm Operator.	Secretary to Chief.
Peoria, Ill.	100,500	103	$2,500	$1,920	$1,680	$1,590	None...	$1,500	$1,500	$1,500	$1,440	$1,740	.....	$1,500	.....	.....	$1,200
Savannah, Ga.	100,000	130	3,000	2,100	1,980	1,800	$1,680	1,620	1,500	1,440	1,260	2,100	$1,740	1,980	.....	.....	.....
Little Rock, Ark.	100,000	75	3,600	2,700	2,400	1,800	1,680	1,560	1,560	1,560	1,440	1,860	.....	1,620	$1,920	$1,680	1,860
Bayonne, N. J.	93,000	198	5,500	5,000	4,750	3,200	None...	2,500	2,300	2,200	2,100	3,200	2,700	2,700	.....	.....	3,200
WilkesBarre, Pa.	95,000	96	3,500	2,940	2,146	2,020	1,941	1,890	1,890	1,890	1,890	2,146	.....	.....	.....	.....	.....
Schenectady, N. Y.	93,000	132	3,600	3,150	.....	2,200	None...	2,050	2,050	1,900	1,700	2,150	.....	.....	1,950	2,050	1,500
Lawrence, Mass.	93,000	143	3,000	2,800	2,690	2,407	2,225	2,190	2,190	2,190	2,190	.....	.....	.....	.....	.....	.....
Rockford, Ill.	92,000	100	3,500	3,000	.....	2,240	None...	1,920	1,920	1,920	1,800	2,500	2,040	.....	2,500	1,920	2,160
Lansing, Mich.	90,000	97	4,000	2,500	.....	2,000	None...	1,800	1,800	1,650	1,550	2,000	.....	1,850	.....	1,800	2,000
Harrisburgh, Pa.	90,000	37	2,800	.....	.....	.....	1,680	1,680	1,680	1,560	1,560	2,240	.....	.....	2,460	2,460	3,000
Hamtramck, Mich.	90,000	64	3,500	2,950	.....	2,840	2,640	2,400	2,400	2,400	2,400	2,400	.....	2,460	2,500	2,400	.....
Huntington, W. Va.	90,000	91	2,700	1,920	.....	1,800	1,740	1,680	1,680	1,680	1,620	2,100	.....	.....	.....	1,800	1,680
Evansville, Ind.	90,000	155	3,650	2,281	.....	1,953	None...	1,825	1,825	1,825	1,642	2,190	.....	.....	1,952	1,460	1,950
Sioux City, Ia.	85,000	92	3,000	2,400	.....	1,980	1,920	1,740	1,740	1,680	1,560	2,400	.....	.....	.....	1,740	.....
Manchester, N. H.	84,000	118	3,800	2,700	2,550	1,950	1,875	1,800	1,800	1,700	1,600	1,950	.....	.....	1,800	1,800	1,950
Fresno, Calif.	84,000	161	5,000	3,420	2,580	2,280	None...	1,980	1,980	1,980	1,740	2,580	2,040	.....	.....	2,160	1,920
Pasadena, Calif.	83,000	110	4,800	3,840	3,000	2,700	None...	2,280	2,160	2,040	1,920	3,000	2,460	.....	2,460	2,460	3,000
Shreveport, La.	82,000	120	3,600	2,700	.....	1,920	None...	1,530	1,530	1,500	1,440	2,100	.....	1,650	.....	1,530	1,530
Berkeley, Calif.	82,000	97	4,500	3,000	.....	2,460	2,340	2,160	2,040	1,980	1,920	2,580	2,280	2,280	.....	2,280	1,200
New Britain, Conn.	80,000	93	4,000	3,000	.....	2,372	2,190	2,007	2,007	1,916	1,733	2,463	.....	2,007	.....	2,200	1,916
Terre Haute, Ind.	80,000	116	3,100	2,295	.....	1,950	1,875	1,800	1,800	1,800	1,620	2,250	.....	1,800	.....	2,025	.....
Highland, Park, Mich.	80,000	126	4,500	3,000	2,950	2,900	2,800	2,550	2,550	2,550	2,300	2,950	.....	.....	2,650	2,200	.....
Charlotte, N. C.	80,000	86	2,700	2,100	.....	1,860	1,776	1,680	1,680	1,680	1,680	1,860	1,680	1,680	.....	.....	1,860
Binghampton, N. Y.	80,000	144	3,200	2,700	2,200	2,150	2,075	2,000	1,856	1,784	1,700	2,150	.....	.....	2,000	1,844	2,000
St. Joseph, Mo.	79,000	156	2,940	2,220	2,160	1,680	None...	1,560	1,500	1,400	1,260	.....	.....	.....	.....	.....	.....
Portland, Me.	79,000	119	3,200	2,380	.....	2,015	1,915	1,825	1,825	1,642	1,496	1,915	1,915	.....	.....	1,734	.....
Johnstown, Pa.	78,000	94	2,460	.....	.....	1,860	None...	1,700	1,700	1,568	1,440	1,985	.....	.....	.....	.....	.....
E. St. Louis, Ill.	76,000	66	2,940	2,340	.....	1,860	None...	1,740	1,740	1,740	1,740	.....	.....	1,860	.....	.....	1,860
Hoboken, N. J.	75,000	181	5,000	3,750	3,750	2,750	None...	2,250	2,100	2,000	1,875	.....	.....	2,250	2,250	.....	2,750
Troy, N. Y.	75,000	128	3,050	.....	1,950	1,850	1,750	1,700	1,700	1,700	1,600	.....	.....	.....	.....	1,750	.....
Charleston, S. C.	75,000	99	3,200	2,400	1,800	1,600	1,500	1,350	1,300	1,250	1,200	2,300	1,450	1,400	.....	.....	.....
Pawtucket, R. I.	75,000	74	2,700	2,200	.....	1,900	1,800	1,734	1,734	1,734	1,378	1,900	.....	.....	.....	.....	1,734
Niagara Falls, N. Y.	75,000	94	3,300	2,700	.....	2,200	None...	2,000	2,000	2,000	1,900	2,200	.....	.....	2,200	.....	2,200
Passaic, N. J.	75,000	103	3,600	3,300	.....	3,100	2,900	2,500	2,300	2,200	2,100	3,100	.....	2,500	.....	2,550	.....
Glendale, Calif.	75,000	78	4,200	.....	2,400	2,220	None...	2,040	2,040	1,920	1,800	.....	.....	.....	.....	.....	2,040
Calgary, Alb.	75,000	86	3,000	2,340	.....	2,040	1,800	1,680	1,680	1,560	1,440	2,040	.....	1,680	.....	1,410	1,680
Springfield, Ohio	72,000	65	2,400	2,220	.....	1,800	1,740	1,680	1,680	1,680	1,475	.....	1,740	.....	1,740	.....	1,680
Springfield, Ill.	71,000	87	3,000	2,160	2,040	1,800	None...	1,680	1,680	1,680	1,500	1,860	1,860	1,800	1,800	.....	.....
Lincoln, Nebr.	71,000	85	3,120	2,220	.....	1,740	1,620	1,620	1,620	1,500	1,380	2,400	1,740	.....	2,100	.....	1,620
Beaumont, Tex.	70,000	63	4,500	3,000	.....	1,800	None...	1,740	1,740	1,720	1,440	3,600	.....	1,740	3,600	2,040	.....
Quincy, Mass.	70,000	104	3,600	.....	.....	2,500	2,300	2,100	2,100	1,870	1,760	.....	.....	.....	.....	.....	2,300
E. Chicago, Ind.	70,000	52	3,600	3,000	.....	.....	.....	2,040	2,040	2,040	1,890	.....	.....	.....	.....	.....	.....
Union City, N. J.	70,000	112	3,300	3,100	.....	.....	.....	2,300	2,300	2,200	2,100	.....	.....	.....	.....	.....	.....
Racine, Wis.	70,000	63	3,600	2,280	.....	2,100	2,040	1,920	1,860	1,800	1,680	2,100	.....	1,920	.....	.....	.....
Wheeling, W. Va.	70,000	93	3,500	2,138	.....	1,935	None...	1,800	1,800	1,800	1,620	2,160	.....	.....	1,920	.....	1,868
Cicero, Ill.	70,000	52	2,760	.....	.....	2,298	2,232	2,100	2,100	2,100	2,100	.....	2,232	.....	.....	.....	.....
E. Orange, N. J.	70,000	99	5,000	4,000	.....	3,000	None...	2,500	2,300	1,950	1,950	.....	.....	.....	2,900	2,500	2,500
Altoona, Pa.	69,000	67	2,280	2,080	.....	1,800	1,704	1,596	1,596	1,596	1,464	.....	1,716	1,680	2,400	.....	.....
Wichita Falls, Mich.	69,000	63	3,600	2,700	1,980	1,800	None...	1,440	1,440	1,440	1,260	1,860	1,620	1,560	1,560	1,440	1,800
Jackson, Mich.	69,000	71	$3,000	$2,400	.....	$1,896	$1,786	$1,654	$1,654	$1,654	$1,579	.....	.....	$1,786	$1,786	$1,654	.....
Lakewood, Ohio	69,000	55	4,360	3,441	.....	2,800	2,710	2,500	2,500	2,200	1,920	$2,710	.....	.....	.....	2,500	$1,500
Windsor, Ont.	69,000	51	3,400	2,280	.....	2,100	2,040	1,980	1,980	1,840	1,590	2,280	.....	.....	2,100	.....	1,980
Edmonton, Alb.	69,000	101	3,100	.....	$2,100	1,920	1,860	1,680	1,680	1,560	1,440	2,040	.....	1,680	.....	1,470	1,776
London, Ont.	68,000	87	3,000	2,500	.....	1,851	None...	1,705	1,705	1,493	1,268	1,900	.....	.....	.....	.....	.....
Bethlehem, Pa.	68,000	35	2,520	1,920	.....	.....	.....	1,740	1,740	1,740	1,740	1,620	.....	1,740	2,160	.....	.....
Springfield, Mo.	68,000	69	2,400	1,920	.....	1,620	1,560	1,500	1,500	1,500	1,500	1,620	$1,620	.....	1,800	1,500	1,620
Mobile, Ala.	68,000	85	2,510	2,220	.....	1,380	None...	1,260	1,260	1,260	1,140	.....	1,320	1,260	.....	1,380	1,500
Brockton, Mass.	66,000	121	3,500	2,750	.....	2,100	2,000	1,800	1,800	1,600	1,400	2,100	1,950	.....	.....	1,800	1,500
Montgomery, Ala.	65,000	80	3,300	2,100	.....	1,680	1,620	1,320	1,320	1,320	1,200	1,800	1,560	1,450	.....	.....	1,800
Newton, Mass.	65,000	96	3,900	2,850	.....	2,600	2,350	2,100	1,900	1,800	1,700	2,600	.....	.....	2,350	.....	2,450
Pontiac, Mich.	65,000	67	4,000	2,700	.....	2,400	None...	2,050	2,050	2,050	1,850	2,400	.....	.....	.....	.....	.....
Evanston, Ill.	65,000	84	4,500	3,000	.....	2,640	2,460	2,160	2,160	2,160	2,160	2,340	2,250	.....	.....	.....	.....
Topeka, Kans.	65,000	85	2,700	2,500	2,400	1,920	1,860	1,738	1,738	1,500	1,344	2,000	.....	1,738	.....	.....	1,200
Pueblo, Colo.	65,000	57	2,580	2,160	.....	1,920	None...	1,800	1,800	1,800	1,710	2,400	.....	.....	2,160	.....	.....
Hammond, Ind.	65,000	81	3,600	2,640	.....	2,520	2,100	2,040	2,040	2,040	1,980	.....	.....	2,100	.....	.....	.....
Oak Park, Ill.	65,000	40	4,000	.....	.....	2,750	2,350	2,100	2,100	2,100	2,100	.....	.....	.....	.....	.....	.....
Covington, Ky.	65,000	73	2,700	2,280	.....	1,920	None...	1,800	1,800	1,800	1,800	2,280	1,920	.....	2,100	1,800	.....
San Jose, Calif.	63,000	72	3,960	2,700	.....	2,280	2,190	2,100	2,100	2,010	1,920	.....	.....	.....	.....	.....	.....
Holyoke, Mass.	60,000	133	4,000	3,500	3,100	2,458	2,350	2,190	2,190	2,090	1,990	2,800	2,350	.....	.....	.....	2,450
Lancaster, Pa.	60,000	73	3,500	2,400	2,000	1,620	None...	1,500	1,500	1,500	1,500	.....	.....	.....	.....	.....	.....
Augusta, Ga.	60,000	78	2,520	1,960	.....	1,590	1,540	1,500	1,500	1,440	1,380	2,220	1,560	.....	.....	.....	1,960
Lexington, Ky.	60,000	83	2,750	2,400	.....	1,680	None...	1,560	1,560	1,440	1,320	1,860	.....	.....	1,680	1,560	1,800
Charlestown, W. Va.	60,000	53	3,000	1,980	.....	1,800	None...	1,530	1,530	1,530	1,530	2,100	.....	.....	.....	.....	.....
Phoenix, Ariz.	60,000	61	3,000	2,400	.....	2,100	2,095	1,800	1,800	1,800	1,635	2,100	1,980	1,920	.....	1,200	2,100
Portsmouth, Va.	60,000	39	2,700	2,520	.....	1,950	1,860	1,800	1,806	1,806	1,514	1,950	1,860	1,806	.....	.....	.....
St. Petersburg, Fla.	60,000	38	4,800	.....	.....	2,100	None...	1,860	1,860	1,800	1,500	2,100	.....	.....	2,100	.....	.....
Halifax, N. S.	60,000	96	2,600	1,900	1,700	1,508	None...	1,404	1,404	1,404	1,404	1,900	.....	1,508	.....	.....	.....
Atlantic City, N. J.	60,000	227	4,000	3,400	3,200	3,000	None...	2,520	2,320	2,120	1,920	3,000	.....	.....	.....	.....	.....
Galveston, Tex.	60,000	99	2,400	1,600	.....	1,600	None...	1,440	1,440	1,440	1,440	2,100	1,600	.....	2,400	.....	.....
Kalamazoo, Mich.	58,000	84	3,000	2,300	.....	1,958	1,836	1,776	1,776	1,776	1,620	2,278	.....	1,836	1,836	1,776	.....
Lima, Ohio	58,000	37	2,400	1,848	.....	1,782	1,675	1,650	1,650	1,650	1,518	1,716	.....	.....	.....	.....	1,716
Cedar Rapids, Ia.	57,000	58	2,460	2,100	.....	1,860	None...	1,740	1,740	1,740	1,680	1,860	.....	.....	.....	.....	1,860
Kenosha, Wis.	56,000	60	4,000	3,000	.....	2,520	2,220	1,980	1,980	1,920	1,860	.....	.....	2,040	.....	.....	.....
Malden, Mass.	56,000	84	3,248	2,938	.....	2,595	2,398	2,226	2,127	2,025	1,927	2,993	.....	.....	2,226	.....	.....
Mt. Vernon, N. Y.	55,000	39	4,600	.....	.....	.....	.....	2,500	2,323	2,175	2,025	3,000	.....	.....	2,620	.....	.....
Medford, Mass.	55,000	74	3,200	2,625	.....	2,425	2,325	2,200	2,100	2,000	1,900	2,625	.....	.....	.....	.....	.....
Columbia, S. C.	55,000	50	2,700	1,980	.....	1,680	None...	1,500	1,500	1,500	1,500	2,400	1,644	1,560	.....	.....	1,500
NewCastle, Pa.	55,000	40	2,124	1,926	.....	1,860	1,800	1,800	1,800	1,800	1,668	2,000	.....	.....	1,500	.....	.....
Clifton, N. J.	55,000	32	3,200	3,000	.....	.....	2,550	2,300	2,200	2,100	2,000	2,400	.....	.....	.....	.....	.....
Davenport, Ia.	55,000	62	2,610	2,040	1,830	1,740	1,710	1,620	1,620	1,554	1,520	1,800	.....	1,650	.....	1,620	1,800
St. John, N. B.	55,000	48	2,000	.....	.....	.....	.....	1,320	1,320	1,320	1,200	.....	.....	.....	.....	.....	.....
Bay City, Mich.	55,000	82	3,000	2,200	1,800	1,680	None...	1,620	1,620	1,620	1,320	1,890	.....	.....	2,000	1,620	.....
McKeesport, Pa.	55,000	49	2,500	.....	.....	2,116	None...	1,970	1,970	1,970	1,970	.....	.....	2,062	2,062	.....	.....
New Rochelle, N. Y.	53,000	95	4,800	4,000	.....	3,000	2,700	2,500	2,220	2,124	2,010	3,000	.....	.....	.....	.....	.....
Greensboro, N. C.	52,000	48	2,700	1,980	.....	1,800	1,680	1,560	1,500	1,440	1,260	1,860	1,800	1,560	1,800	1,800	1,800
Elmira, N. Y.	52,000	66	2,900	2,220	.....	1,920	1,860	1,800	1,740	1,680	1,560	2,160	.....	.....	1,920	.....	1,860
Chelsea, Mass.	52,000	101	3,000	2,600	.....	2,400	2,250	2,080	2,080	1,800	1,700	2,250	.....	.....	.....	.....	.....
Newport News, Va.	51,700	40	3,000	2,400	.....	1,920	1,800	1,740	1,680	1,560	1,500	.....	.....	.....	1,800	1,080	.....
Haverhill, Mass.	50,000	94	$2,800	$2,400	$2,372	$2,281	$2,190	$2,007	$2,007	$2,007	$2,007	.....	$2,098	$2,007	.....	.....	.....
Battle Creek, Mich.	50,000	65	3,000	2,400	.....	2,115	None...	1,978	1,978	1,978	1,839	$2,600	.....	.....	$1,978	$1,433	$1,978
Brookline, Mass.	50,000	108	4,250	3,190	.....	2,891	2,591	2,191	2,191	2,191	1,991	2,591	.....	.....	.....	1,991	1,991
Muncie, Ind.	50,000	50	2,600	1,926	.....	1,798	1,733	1,605	1,605	1,605	1,537	.....	.....	1,669	.....	1,605	1,733
Joliet, Ill.	50,000	44	2,750	2,400	.....	1,980	1,800	1,680	1,680	1,680	1,680	2,100	.....	.....	.....	.....	.....
Pittsfield, Mass.	50,000	57	2,882	2,582	.....	2,382	2,282	2,007	2,007	2,007	1,825	2,282	.....	.....	2,007	.....	2,007
Williamsport, Pa.	50,000	71	2,500	.....	.....	1,900	None...	1,600	1,600	1,600	1,500	.....	.....	1,700	.....	.....	.....
Butte, Mont.	50,000	49	3,000	2,400	.....	1,930	None...	1,800	1,800	1,800	1,800	2,820	.....	1,800	2,100	.....	1,800
Asheville, N. C.	49,000	70	3,140	2,160	.....	1,920	1,800	1,680	1,680	1,560	1,440	1,920	.....	.....	1,680	.....	.....
Woonsocket, R. I.	48,000	112	4,000	2,800	.....	2,038	1,929	1,820	1,768	1,664	1,560	.....	.....	.....	2,038	1,820	.....
Muskogee, Okla.	48,000	63	2,520	1,965	.....	1,814	None...	1,587	1,587	1,549	1,368	1,814	.....	1,650	.....	1,386	1,650
Jamestown, N. Y.	48,000	69	2,600	1,980	.....	1,860	None...	1,740	1,740	1,680	1,620	1,860	.....	.....	.....	.....	1,460
Lorain, Ohio	48,000	40	3,000	2,700	.....	2,448	2,304	2,160	2,160	2,160	2,160	2,304	.....	.....	2,100	.....	.....
Stamford, Conn.	47,000	68	4,500	3,700	.....	2,400	None...	2,200	2,200	2,000	1,800	2,500	.....	.....	2,500	.....	.....
Aurora, Ill.	47,000	39	3,000	2,280	.....	2,040	1,920	1,800	1,800	1,800	1,560	.....	.....	.....	.....	1,440	.....

SALARIES THAT PREVAIL IN FIRE DEPARTMENTS IN THE UNITED STATES AND CANADA, JANUARY, 1929.

City.	Population.	No. of Men.	Chief.	Deputy or Asst. Chief.	District or Battalion Chief.	Captains.	Lieutenants.	Maximum pay.	3d year.	2d year.	1st year.	Master Mechanic.	Engineers.	Chauffeurs.	Electricians.	Fire Alarm Operator.	Secretary to Chief.
Dubuque, Ia.	47,000	61	3,600	.....	.....	1,860	1,740	1,680	1,680	1,680	1,620	1,920	1,740	1,680	.....	1,680	2,100
Chicopee, Mass.	46,000	68	3,000	2,460	.....	2,312	None...	2,155	2,155	2,155	2,028	2,312	.....	.....	.....	.....	1,800
Muskegon, Mich.	46,000	63	3,270	2,208	.....	1,860	1,812	1,560	1,464	1,368	1,272	2,100	.....	1,704	.....	.....	.....
Poughkeepsie, N. Y.	45,000	54	3,000	.....	.....	.....	.....	2,190	2,190	2,190	1,840	.....	.....	.....	.....	.....	.....
Jackson, Miss.	45,000	53	2,400	1,920	.....	1,800	None...	1,680	1,620	1,620	1,500	1,860	.....	1,680	.....	.....	.....
Superior, Wis.	45,000	75	3,180	2,664	.....	2,064	2,004	1,920	1,860	1,800	1,740	2,580	1,980	1,944	.....	.....	.....
Danville, Ill.	45,000	43	2,280	.....	.....	1,660	None...	1,600	1,600	1,600	1,600	.....	.....	.....	1,980	.....	.....
Salem, Mass.	45,000	69	2,700	2,500	.....	2,025	1,900	1,825	1,825	1,576	1,576	1,975	1,975	.....	.....	.....	.....
Portsmouth, Ohio.	45,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ogden, Utah	44,500	32	2,400	1,920	.....	1,860	1,740	1,680	1,680	1,680	1,680	1,860	.....	1,740	.....	1,860	1,740
Ft. Smith, Ark.	44,000	52	2,400	1,680	.....	1,500	1,440	1,320	1,320	1,320	1,230	1,920	1,500	.....	.....	.....	.....
Oshkosh, Wis.	44,000	59	2,520	1,920	.....	1,740	1,680	1,620	1,500	1,440	1,320	.....	.....	.....	1,620	.....	.....
Moline, Ill.	44,000	34	2,220	1,860	.....	1,780	1,720	1,680	1,680	1,680	1,540	.....	.....	.....	.....	.....	.....
Fitchburg, Mass.	44,000	105	3,000	.....	2,134	2,061	1,989	1,916	1,916	1,916	1,916	.....	.....	.....	1,825	.....	2,061
San Bernardino, Calif.	43,000	28	2,400	1,920	1,740	1,680	None...	1,620	1,620	1,620	1,530	.....	.....	.....	.....	.....	.....
Council Bluffs, Ia.	43,000	57	2,160	1,920	.....	1,800	None...	1,740	1,740	1,500	1,320	1,800	.....	1,740	.....	.....	.....
Zanesville, Ohio.	42,000	34	2,160	1,980	.....	.....	.....	1,680	1,680	1,680	1,560	.....	.....	.....	.....	.....	.....
Bellingham, Wash.	42,000	46	2,400	2,220	.....	2,100	2,040	1,980	1,980	1,860	1,740	2,220	.....	.....	.....	.....	.....
E. Cleveland, Ohio.	42,000	33	3,800	.....	.....	2,650	2,450	2,300	2,300	2,130	1,850	2,600	.....	.....	.....	.....	.....
Victoria, B. C.	42,000	74	3,000	2,400	.....	1,800	1,716	1,584	1,584	1,464	1,320	1,716	1,716	.....	.....	1,380	.....
West New York, N. J.	42,000	71	3,800	3,300	.....	2,900	None...	2,500	1,900	1,800	1,700	3,300	.....	.....	.....	.....	.....
Santa Monica, Calif.	42,000	26	2,400	2,220	.....	2,100	2,100	1,980	1,980	1,860	1,800	2,040	2,040	1,980	.....	.....	.....
Taunton, Mass.	42,000	56	3,082	2,382	.....	2,132	2,057	2,007	2,007	1,825	1,643	.....	.....	.....	.....	.....	.....
Elkhart, Ind.	42,000	40	2,280	1,920	.....	1,860	1,800	1,740	1,740	1,740	1,620	.....	.....	.....	1,800	.....	.....
Petersburg, Va.	42,000	45	2,400	1,740	.....	1,440	1,260	1,260	1,260	1,260	1,260	1,800	1,440	1,260	.....	.....	.....
Warren, Ohio.	42,000	33	2,574	2,310	.....	2,178	None...	1,980	1,980	1,980	1,848	.....	.....	.....	.....	.....	.....
Meridian, Conn.	41,000	44	3,258	2,658	.....	2,508	2,408	2,184	2,184	2,184	2,184	2,408	.....	.....	.....	2,408	.....
Joplin, Mo.	40,000	35	2,280	.....	.....	1,740	None...	1,560	1,560	1,440	1,320	2,400	.....	.....	1,800	.....	1,740
Sheboygan, Wis.	40,000	56	2,820	2,160	.....	1,980	1,920	1,740	1,740	1,740	1,650	2,040	1,740	1,740	1,740	1,140	.....
Waterloo, Ia.	40,000	49	2,700	2,040	.....	1,920	1,740	1,680	1,680	1,620	1,560	.....	.....	1,680	.....	1,680	.....
Hamilton, Ohio.	40,000	54	2,400	1,920	.....	1,860	None...	1,800	1,800	1,800	1,520	.....	.....	.....	.....	.....	.....
Quincy, Ill.	40,000	63	2,000	1,536	.....	.....	.....	1,386	1,386	1,386	1,386	1,416	.....	.....	.....	.....	.....
Saskatoon, Sask.	40,000	47	3,000	2,070	.....	1,830	1,770	1,710	1,710	1,590	1,470	1,830	.....	.....	.....	.....	.....
Auburn, N. Y.	39,000	64	2,880	2,160	.....	1,950	1,860	1,800	1,800	1,667	1,533	1,800	.....	.....	1,920	.....	.....
Plainfield, N. J.	39,000	57	$4,500	$3,200	.....	$2,900	$2,700	$2,500	$2,200	$2,100	$2,000	.....	.....	.....	$2,100	.....	.....
Tucson, Ariz.	39,000	30	3,300	2,400	.....	2,100	2,040	1,860	1,860	1,740	1,620	.....	.....	$1,920	.....	.....	.....
Santa Barbara, Calif.	39,000	56	3,000	2,700	.....	2,220	None...	1,800	1,800	1,800	1,680	$1,920	$1,920	.....	.....	$1,800	$1,800
Anderson, Ind.	39,000	60	2,520	1,980	.....	1,752	1,680	1,650	1,650	1,650	1,650	.....	.....	.....	.....	.....	.....
Lynchburg, Va.	39,000	60	2,700	1,920	.....	1,800	1,710	1,650	1,590	1,530	1,245	1,740	1,650	1,650	.....	.....	1,140
Kokomo, Ind.	39,000	41	1,860	1,620	.....	1,560	None...	1,500	1,500	1,500	1,320	1,620	.....	.....	1,620	.....	.....
Revere, Mass.	38,000	62	2,700	2,500	.....	2,300	2,200	2,000	2,000	1,800	1,700	2,200	.....	.....	.....	.....	.....
Bloomfield, N. J.	38,000	36	3,700	3,200	.....	3,000	None...	2,500	2,500	2,400	2,300	.....	.....	2,500	.....	.....	.....
Alameda, Calif.	38,000	49	3,600	2,580	.....	2,316	None...	2,040	1,920	1,800	1,740	2,316	.....	.....	.....	.....	.....
Steubenville, Ohio.	38,000	35	2,664	.....	.....	2,376	2,204	2,160	2,160	2,160	1,920	.....	.....	.....	.....	.....	.....
Orange, N. J.	38,000	45	3,500	2,900	.....	2,700	None...	2,400	2,300	2,100	2,000	2,700	.....	.....	.....	.....	.....
Montclair, N. J.	38,000	66	4,000	3,500	.....	3,000	2,750	2,500	2,400	2,300	2,200	3,250	.....	.....	2,500	.....	.....
Waltham, Mass.	38,000	79	3,000	2,500	.....	.....	.....	2,000	2,000	1,900	1,800	.....	.....	.....	.....	1,600	.....
Regina, Sask.	38,000	53	2,700	.....	.....	1,884	None...	1,644	1,584	1,500	1,320	2,040	.....	.....	1,800	1,644	.....
Easton, Pa.	38,000	34	2,500	.....	.....	.....	.....	1,680	1,680	1,680	1,680	.....	.....	.....	.....	.....	.....
Everett, Wash.	38,000	43	2,700	2,280	.....	2,040	1,980	1,800	1,800	1,620	1,560	2,040	.....	1,860	.....	1,800	1,920
Three Rivers, Que.	37,000	52	2,700	.....	.....	1,700	None...	1,490	1,490	1,490	1,274	.....	1,547	.....	.....	.....	.....
Lewiston, Me.	37,000	28	2,500	.....	.....	1,700	1,650	1,600	1,600	1,550	1,500	.....	.....	.....	.....	.....	.....
Mansfield, Ohio.	37,000	18	2,400	2,220	.....	2,100	None...	1,800	1,800	1,800	1,800	.....	.....	.....	.....	.....	.....
High Point, N. C.	37,000	27	2,400	.....	.....	1,540	1,540	1,500	1,260	1,140	1,020	1,800	1,800	.....	.....	.....	.....
Hagerstown, Md.	37,000	14	.....	.....	.....	.....	.....	1,440	1,440	1,440	1,440	.....	.....	1,440	.....	.....	.....
Meridian, Miss.	37,000	38	2,340	2,208	.....	1,968	None...	1,860	1,860	1,860	1,860	2,208	.....	.....	2,028	.....	.....
Ceren Bay, Wis.	36,000	55	3,600	2,040	.....	1,950	1,920	1,800	1,700	1,600	1,500	1,950	1,950	.....	.....	.....	.....
Colorado Springs, Colo.	36,000	42	3,000	2,400	.....	1,800	None...	1,680	1,680	1,680	1,590	1,980	.....	.....	.....	.....	1,680
Watertown, Mass.	35,000	39	3,200	.....	.....	2,600	2,450	2,200	2,200	2,200	2,000	2,300	.....	.....	.....	.....	.....
Amsterdam, N. Y.	35,000	49	2,400	2,100	.....	1,800	None...	1,680	1,680	1,620	1,560	.....	.....	1,740	.....	1,680	.....
LaCrosse, Wis.	35,000	73	2,700	.....	.....	1,770	1,710	1,680	1,680	1,680	1,560	1,800	.....	1,710	.....	.....	1,710
Newark, Ohio.	35,000	39	2,220	1,920	.....	1,680	None...	1,560	1,560	1,560	1,440	1,740	.....	.....	.....	.....	.....
Newport, Ky.	35,000	26	1,800	1,572	.....	1,548	None...	1,440	1,440	1,440	1,440	2,000	1,548	1,548	.....	.....	1,548
Albuquerque, N. M.	35,000	26	3,156	2,208	.....	1,716	1,656	1,516	1,516	1,516	1,260	1,896	.....	1,572	.....	.....	.....
Watertown, N. Y.	35,000	48	2,724	2,208	.....	1,896	1,824	1,752	1,680	1,608	1,536	2,040	1,824	.....	1,884	.....	1,884
New London, Conn.	35,000	25	2,400	2,200	.....	.....	.....	1,800	1,800	1,700	1,600	.....	.....	1,800	1,800	.....	1,800
Marion, Ohio.	35,000	28	2,700	.....	.....	1,950	None...	1,830	1,830	1,740	1,680	1,950	.....	.....	.....	.....	.....
Cumberland, Md.	35,000	30	2,100	1,800	.....	1,620	1,560	1,500	1,500	1,500	1,200	.....	.....	1,500	.....	.....	.....
Clarksburg, W. Va.	35,000	21	2,500	1,980	.....	1,740	None...	1,740	1,740	1,680	1,620	.....	.....	.....	.....	.....	.....
Elgin, Ill.	35,000	31	2,220	1,980	.....	1,830	1,800	1,780	1,780	1,780	1,710	.....	.....	.....	.....	.....	.....
Rome, N. Y.	34,000	31	2,500	1,950	.....	1,800	1,740	1,680	1,680	1,620	1,560	.....	.....	.....	.....	.....	.....
Bloomington, Ill.	33,000	39	2,160	1,800	.....	1,680	None...	1,620	1,620	1,620	1,620	.....	.....	.....	.....	.....	.....
Riverside, Calif.	33,000	26	2,820	2,040	.....	1,740	1,620	1,380	1,380	1,380	1,380	1,800	1,560	1,500	.....	.....	.....
Nashua, N. H.	33,000	60	3,500	2,150	.....	1,900	None...	1,800	1,800	1,800	1,740	.....	1,890	1,800	.....	.....	.....
White Plains, N. Y.	32,000	63	4,500	.....	.....	None...	3,000	2,500	2,200	2,100	2,000	.....	.....	.....	2,500	2,500	.....
Bakersfield, Calif.	32,000	53	3,420	2,580	.....	2,340	None...	2,040	1,920	1,800	1,680	2,220	.....	2,100	.....	1,440	.....
Richmond, Calif.	32,000	51	3,600	2,520	.....	2,160	None...	1,980	1,980	1,980	1,920	2,400	1,980	1,980	2,040	1,860	1,980
Norwood, Ohio.	32,000	27	2,500	.....	.....	2,040	1,908	1,800	1,800	1,800	1,800	.....	.....	.....	.....	.....	.....
Massillon, Ohio.	32,000	18	2,280	.....	.....	1,920	None...	1,800	1,800	1,800	1,600	2,040	.....	.....	.....	.....	.....
Baton Rouge, La.	31,000	36	3,000	.....	.....	1,500	1,440	1,440	1,440	1,320	1,284	1,500	.....	.....	.....	1,320	1,500
Newport, R. I.	31,000	93	2,740	.....	.....	1,976	None...	1,828	1,828	1,717	1,599	2,084	.....	.....	1,976	.....	.....
Enid, Okla.	31,000	14	2,100	1,920	.....	.....	.....	1,800	1,680	1,560	1,440	.....	.....	.....	.....	.....	.....
Alton, Ill.	30,000	24	2,700	1,960	.....	1,800	None...	1,560	1,560	1,560	1,560	.....	.....	1,560	.....	.....	.....
Ann Arbor, Mich.	30,000	31	$2,738	$2,316	.....	$1,992	None...	$1,884	$1,884	$1,884	$1,728	.....	.....	.....	.....	.....	.....
Middletown, Ohio.	30,000	19	2,500	2,150	.....	1,920	$1,800	1,800	1,800	1,800	1,800	.....	.....	.....	$1,900	.....	.....
Greenville, S. C.	30,000	38	2,520	1,800	.....	.....	1,500	1,440	1,440	1,440	1,200	.....	$1,440	.....	.....	.....	.....
Kitchener, Ont.	30,000	30	2,700	1,700	.....	1,540	1,500	1,450	1,450	1,284	1,104	$1,540	.....	.....	.....	.....	.....
Brantford, Ont.	30,000	29	2,500	1,900	.....	1,825	None...	1,642	1,642	1,642	1,460	1,825	.....	.....	.....	.....	$1,825
Great Falls, Mont.	30,000	30	2,340	2,040	.....	1,860	1,800	1,740	1,740	1,740	1,740	1,740	.....	.....	.....	.....	.....
Alhambra, Calif.	30,000	32	3,000	2,400	.....	2,280	None...	1,920	1,920	1,800	1,680	.....	2,100	.....	.....	$1,920	.....
Boise, Idaho.	30,000	30	2,700	1,740	.....	1,560	1,500	1,440	1,440	1,380	1,320	1,740	1,560	$1,000	.....	.....	.....
Chicago Heights, Ill.	29,000	20	3,600	2,700	.....	2,160	2,040	1,920	1,920	1,920	1,920	.....	.....	1,920	.....	.....	.....
Elyria, Ohio.	29,000	28	2,520	2,040	.....	1,992	1,956	1,920	1,920	1,920	1,920	2,040	.....	.....	.....	.....	.....
Parkersburg, W. Va.	28,000	25	1,680	.....	.....	.....	1,620	1,560	1,560	1,560	1,500	.....	.....	.....	.....	.....	.....
Kingston, N. Y.	28,000	24	3,000	2,520	.....	.....	.....	2,040	2,040	1,920	1,800	2,160	.....	.....	.....	.....	.....
Danbury, Conn.	28,000	28	3,000	2,500	.....	.....	.....	2,200	2,200	2,100	2,000	.....	.....	.....	2,350	.....	.....
Fon Du Lac, Wis.	28,000	43	2,400	2,040	.....	1,920	1,800	1,740	1,620	1,500	1,410	.....	.....	.....	.....	.....	.....
Hull, Que.	28,000	36	2,100	1,600	.....	1,350	1,250	1,200	1,150	1,100	1,000	1,200	1,250	1,200	1,200	1,400	1,150
E. Providence, R. I.	28,000	13	2,600	2,080	.....	None...	2,080	1,825	1,825	1,734	1,642	.....	.....	.....	.....	.....	.....
Salem, Ore.	28,000	24	2,400	.....	.....	1,800	None...	1,500	1,500	1,500	1,500	1,800	.....	.....	.....	.....	.....
Homestead, Pa.	28,000	16	2,160	.....	.....	2,040	None...	1,980	1,980	1,980	1,980	.....	.....	.....	.....	.....	.....
Michigan City, Mich.	28,000	28	2,700	2,040	.....	1,980	None...	1,740	1,740	1,740	1,740	1,920	1,920	1,740	.....	.....	.....
Canal Zone.	27,000	44	4,800	3,300	.....	2,904	2,724	2,436	2,208	2,088	1,860	2,880	.....	.....	.....	.....	3,192
Sherbrooke, Que.	27,000	28	2,200	.....	.....	1,500	1,450	1,400	1,300	1,144	1,400	.....	1,450	1,450	.....	.....	1,300
Bangor, Me.	27,000	70	2,500	1,734	$1,643	.....	.....	1,460	1,460	1,460	1,460	.....	.....	1,460	2,500	.....	1,460
Burlington, Iowa.	27,000	27	1,800	1,620	.....	1,500	.....	1,440	1,440	1,380	1,344	.....	.....	.....	.....	.....	.....
Clinton, Iowa.	27,000	24	2,160	1,980	.....	None...	1,860	1,800	1,800	1,800	16,80	.....	.....	.....	.....	.....	.....
Alliance, Ohio.	27,000	23	2,400	2,100	.....	1,860	None...	1,800	1,800	1,800	1,800	1,860	.....	.....	.....	.....	.....
Butler, Pa.	26,000	23	2,190	.....	.....	1,800	None...	1,680	1,680	1,680	1,680	.....	.....	1,740	.....	.....	.....
Central Falls, R. I.	26,000	16	2,125	1,859	.....	1,834	1,799	1,734	1,734	1,734	1,642	1,834	.....	.....	.....	.....	.....
Mason City, Iowa	26,000	19	3,300	.....	.....	1,800	1,710	1,620	1,620	1,560	1,500	1,710	.....	.....	.....	.....	.....
North Adams, Mass.	26,000	34	2,600	2,100	.....	1,941	None...	1,916	1,916	1,825	1,734	.....	.....	.....	.....	.....	.....
Concord, N. H.	25,000	17	2,600	.....	.....	1,850	1,850	1,800	1,800	1,800	1,800	.....	.....	1,800	.....	.....	.....
Gloucester, Mass.	25,000	39	2,100	2,025	.....	1,925	None...	1,825	1,825	1,825	1,643	2,000	.....	.....	.....	.....	.....
Winona, Wis.	25,000	35	2,500	1,920	.....	1,632	1,566	1,500	1,500	1,500	1,500	.....	.....	.....	.....	.....	.....
Oil City, Pa.	25,000	23	2,220	1,800	.....	.....	.....	1,620	1,620	1,620	1,560	.....	.....	.....	.....	.....	.....
Granite, City, Ill.	25,000	16	1,980	1,800	.....	1,800	None...	1,800	1,800	1,800	1,620	.....	.....	1,800	.....	.....	.....
Sydney, N. S.	25,000	49	1,900	.....	.....	.....	.....	1,320	1,320	1,320	1,260	.....	1,800	.....	.....	.....	.....
Oshawa, Ont.	25,000	16	2,200	.....	.....	1,560	1,500	1,500	1,440	1,380	1,320	.....	.....	.....	.....	.....	.....
Eau Claire, Wis.	25,000	28	2,700	1,680	.....	1,560	None...	1,500	1,500	1,500	1,440	1,500	.....	.....	.....	.....	.....
Ashtabula, Ohio.	25,000	16	.....	.....	.....	2,200	2,000	1,900	1,800	1,700	1,600	.....	.....	1,950	.....	.....	.....
Hutchinson, Kans.	25,000	32	1,800	1,680	.....	1,500	None...	1,380	1,380	1,380	1,320	.....	.....	.....	.....	.....	.....
Yakima, Wash.	25,000	31	2,500	2,400	.....	1,860	1,740	1,680	1,680	1,680	1,560	2,000	.....	.....	.....	.....	.....
E. Liverpool, Ohio.	25,000	11	2,280	1,980	.....	1,800	None...	1,680	1,680	1,680	1,635	.....	.....	.....	.....	.....	.....
Danville, Va.	25,000	38	2,400	2,040	.....	1,800	1,680	1,680	1,620	1,560	1,500	.....	1,800	.....	.....	.....	.....
Oswego, N. Y.	25,000	30	1,865	1,740	.....	1,575	None...	1,500	1,500	1,420	1,320	.....	.....	.....	.....	.....	.....
Hackensack, N. J.	25,000	25	3,500	.....	.....	2,900	2,700	2,500	2,500	2,300	2,200	2,700	.....	.....	.....	.....	.....
Manitowoc, Wis.	24,500	28	2,380	1,920	.....	1,800	1,740	1,680	1,680	1,620	1,560	.....	.....	.....	.....	.....	.....
Northampton, Mass.	24,000	34	2,600	2,281	.....	2,098	None...	1,916	1,916	1,916	1,643	2,007	.....	.....	.....	.....	1,200
Ft. Dodge, Iowa.	24,000	20	1,980	1,860	.....	1,800	None...	1,680	1,680	1,620	1,560	1,860	.....	.....	.....	.....	.....
Appleton, Wis.	23,000	28	2,700	2,100	.....	1,740	None...	1,620	1,500	1,440	1,380	1,740	.....	.....	1,920	.....	.....
Sault Ste Marie, Ont.	23,000	28	2,220	1,740	.....	1,560	1,440	1,380	1,380	1,320	1,260	.....	.....	.....	.....	.....	.....

(To be continued)

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

WERE one to search for the basis of efficient fire department management, it could be found summed up in one word—Prevention. Perhaps the idea has been borrowed from the Chinese who pay doctors to keep them well, and who pay the medical men only while they are in the best of health.

So too with fire departments. Fire losses and possible loss of life may be avoided by preventative work.

A thorough campaign started by fire departments and followed out with the cooperation of police and fire marshal's offices, will prevent activities of those who plan to sell their property and merchandise to insurance interests. Preventative work by uniformed fire forces, and delay in payment of insurance adjustments, have proven of immense value.

Fire chiefs are interested in low per capita fire losses. By eliminating the chances for incendiary work, the city is more qualified to attain its objective.

Here is the Problem

What steps do you take to prevent incendiary fires? Have they proven effective?

The problem treated in this issue is printed in the box on this page. Due to the large response from chiefs all over the country, it is necessary to print the discussion in two sections. The concluding installment will appear in the next issue. If you have a problem that you would like to see treated in this department, write to the "Round Table Editor," FIRE ENGINEERING, 225 W. 34th St., New York, N. Y.

The Question

The replies received stress the importance of the chief investigating each fire, and of the insurance companies delaying payment on questionable losses. The discussions received follow:

John Kenlon, Chief, New York, N. Y.: Incendiary fires can only be prevented in the manner in which all crime is prevented. In other words, where an incendiary fire occurs a rigid investigation is immediately started. All persons who might have any knowledge of the crime are examined under oath. Where there is sufficient evidence, an arrest is immediately made and the department cooperates with the District Attorney in preparing the case against, and prosecuting the defendant. This acts as a deterrent to future fire bugs.

As in all other major crimes, the officials seldom have any knowledge that they are going to occur until the crime has been committed, but there are times in certain industries when there are an unusual number of fires, due to business depression, some of which are probably incendiary. Under these circumstances, an inspection is made of all concerns in the line involved, and the character and quantity of their merchandise examined, inquiries are made as to the insurance carried and such other action as is possible or necessary, immediately taken. This also serves to decrease incendiary fires. This covers fires that are made for the purpose of collecting insurance.

In addition to such fires, in this, and in all large cities, there are a great number of fires caused by pyromaniacs. No two pyromaniacs "work" in exactly the same manner. An analytical study of these fires and the circumstances thereof very frequently discloses the individual who is responsible for them. Where there is sufficient evidence, they are apprehended and dealt with according to law, but in a great number of cases, due to the fact that there is no apparent motive, convictions are difficult to obtain and the suspected individual is listed in a card index system and his movements, habits and occupation are periodically checked, so that the Department is in position to keep him under surveillance. Further where it becomes evident that a pyromaniac is "working," a plant is established, consisting of fire marshals and police detectives in the locality affected, and all persons who appear at successive fires are followed and their identity established.

Edw. F. Dahill, Chief, New Bedford, Mass.: The fire prevention bureau keeps a complete record of inspections and a separate record sheet for all fires in buildings. A record is also kept for each person having a fire and a colored card is used if the fire looked suspicious.

District chiefs report to the fire prevention bureau promptly all fires of doubtful origin and the fire prevention bureau makes a prompt and thorough inspection of the premises involved and all available circumstances connected with the fire, including an estimate of values and amount of insurance carried, etc.

The fire prevention officer carries a camera. Pictures taken after fires have proven valuable in securing the conviction of guilty persons.

Systematic and frequent inspections of industrial and business sections by a courteous uniformed fireman is of great value. He should report and cause the correction of any hazardous conditions he finds during his tour of inspection. The moral effect of a visit by a uniformed fireman will cause a person with an incendiary purpose to hesitate, if not abandon the idea of selling out to the insurance company.

A strict enforcement of laws relating to safe construction of buildings and the handling and storage of volatile liquids and compounds will greatly help to prevent fires.

I believe a fire prevention bureau is a valuable addition to any fire department and in answer to your second question I can say that the activities of our fire prevention bureau have proven effective in reducing the fire losses.

Michael McPhee, Chief, Lawrence, Mass.: Constant, regular and systematic inspection of all mercantile and manufacturing establishments by uniformed firemen, is our most effective means of checking incendiary fires. Our system of inspection is conducted under the direct supervision of a deputy chief, the inspection being performed by regular firemen in their respective company districts.

We have found these inspections have a tendency to reveal a possible motive or other inclination on the part of anyone whose incentive to set a fire might be actuated by the existence of hazardous accumulations of inflammable materials.

The setting of fires for purely mercenary reasons is a problem in criminality of an entirely different aspect, requiring a different method of handling. However, it has been our custom in all cases, when satisfied that there are certain questionable circumstances in connection with a fire, to immediately investigate the matter.

Through the full and complete cooperation of the police department, whereby an inspector is specially assigned to work with the state fire marshal's office, many

FRANK E. SMITH ADMITS HE SET FIRE TO HOME

Gets Five-Year Sentence; Frank Waterbury Under Arrest; To Investigate

Admits Starting Fire.

"On the morning of Marc said Smith, "he (referring to bury) urged me to house and set fire and house, but I He urged me again of March 13, and I could make easy m the furniture on fire ed and about 7 o'clo ing of March 14, I set fire to it.

"Immediately af notified John Blair to the Grand hotel F. Waterbury waiting room, and I told I done, and he said that we would both money out of it.

Fire of undetermined origin destroyed three buildings at Owasa late last Thursday, causing damage which

OF ARSON CHARGE

atthews Sentenced ar In Pen

his city, who was was acquitted by fternoon in Judge Link is now being jail charged with with intent to de- company. in Colfax l t three week

5 IOWA ARSON PLOTS ADMITTED

Cedar Rapids Case Latest Solved by Marshal.

Five arson confessions and several grand jury indictments have been obtained so far this year by the state fire marshal's department. The confessions were scat-

THREE BUILDINGS BURNED TO GROUND BY BLAZE OF UNDETERMINED ORIGIN.

We Thank You!

Due to the large response to this problem, it will be continued in the next issue.

arrests have been made and the persons apprehended have been severely prosecuted. This has contributed in no small way toward effectively preventing incendiary fires.

Geo. M. Bower, Chief, Rome, N. Y.: Thorough investigations should be made to secure sufficient evidence to bring about convictions. If sufficient evidence for a conviction cannot be secured, then payment of the insurance should be held up eight or ten months. During this time the insured will engage a lawyer. When the insurance is finally paid, the lawyer will naturally take his share for his trouble. This tends to prevent many incendiary fires.

The last case we had was a private home. Upon arriving at the fire we found a bottle containing five gallons of gasoline tipped over, half of the contents having run out. We also discovered two other five gallon bottles which were broken. The fire was confined to the kitchen, but the entire house was filled with smoke. The family was out of the city when the fire occurred, but returned the next day. The Chief of Police, an inspector of the National Board of Fire Underwriters and myself began an investigation. We discovered that the gasoline used was fifty-eight and a half pints and that the bottles were bought in a neighboring city. The motive of this fire was to collect twenty-five hundred dollars insurance on the building to cover a two thousand dollar mortgage and six thousand dollars on the contents of the home. In this case the insurance company did not settle this claim. In about ten months, the insured brought civil action against the company for the money. The case was tried in the Supreme Court, with a verdict of "no cause for action." A few verdicts like this one will help to stop many persons from starting a fire.

T. R. Graham, Chief, Corvallis, Ore.: Every fire is investigated by an officer of the fire department immediately upon arriving at the fire and all possible causes are noted. If the fire is of suspicious origin, further investigation is made by officers of the fire department, in cooperation with the police department and the arson squad of the state fire marshal's department.

The fact that all fires are investigated contributes a great deal toward reducing the incendiary fire to a negligible factor. Out of the total of over six hundred fires in the past five years, only seven, after thorough investigation, proved to be of an incendiary nature. Prior to the inauguration of the investigation system, the percentage of incendiary fires was comparatively high.

In addition to the system of investigation, accurate records are kept by the fire marshal, with cross references of owners and tenants. This quickly shows any persons or persons involved in more than one fire.

Olander Lind, Chief, Kansas City, Kans.: The state of Kansas has a fire marshal's department, maintained by the fire insurance companies to investigate all fires of a questionable character. The department consists of the fire marshal, nine field deputies and three office deputies. As this is the largest city in the state one deputy has been assigned to work here entirely. With his presence here, there has been a reduction in the incendiary fires.

While we still have incendiary fires, since the fire marshal's department has been in operation, there have been a number of convictions.

As an example, I will cite one instance of a druggist who was going to sell out to the insurance company, but upon learning of the investigation work done by the department, moved his stock to another state to have his fire. There is no doubt in my mind that if you cause the arsonist as much trouble as possible, he will eventually retire or move to foreign parts.

The local fire insurance agents also cooperate with us in this respect. They try not to over-write the building and contents as this is one of the main factors in creating incendiarism. The county attorney has always cooperated with us and is very glad to do so.

In reply to your second question I would state that these methods have proved very effective on all occasions.

Chas. L. McCarthy, Chief, Worcester, Mass.: This state has a Department of Public Safety. This department has a man stationed in Worcester. His duty is to investigate all fires in the county which are of a questionable nature. Persons having the fire are thoroughly grilled and a record is maintained of their fire. This serves as a deterrent.

A card index is also kept not only of the locations of all fires but also of the owners and occupants of the buildings in which the fire has occurred. If the same address or name appears on two or more fires of questionable origin, the insurance agents are notified and they in turn notify the adjustor who, if unable to stop payment on the policy, holds it off as long as possible and then refuses to re-insure. This, of course, is a deterrent. If we are unable to do anything with the insurance company, we tackle the banks on the mortgage or those supplying merchandise and work from that angle.

These methods have worked out satisfactorily and we are burdened with very few questionable fires or even careless fires, as we use the same methods when we find rubbish or waste material carelessly thrown around.

J. H. Speddy, Chief, Lakewood, N. J.: A systematic inspection is made monthly by company officers in their respective districts of all business establishments and also the basements of apartment houses. If any conditions are found that constitute a fire hazard, their attention is immediately called to this fact and the condition is ordered to be remedied without delay.

In addition to this there is a double liability attached to this law: if by any reason to obey this order there is damage done to other property, this owner or occupant immediately becomes liable. After this is thoroughly explained it usually has the desired effect.

The cause of each fire is thoroughly investigated and as a general rule the cause is not hard to determine, if time and care are taken to make a proper investigation.

The difference between a legitimate and an incendiary fire is usually very apparent upon the arrival of the first company officer or chief officers of the department. If the cause of the fire is not readily apparent and if there is anything of a suspicious nature in connection with the fire, it is immediately reported to the State Fire Marshal and an investigation ordered at once.

These methods must be more or less effective as it has been only on very rare occasions when it has been necessary to order an investigation. In fact, the investigations would not average more than one a year.

M. W. Briggs, Chief, Fire Headquarters, Shelbyville, Ind.: When a fire of an incendiary nature occurs, I notify the police department. A thorough investigation is immediately started to locate the guilty person. The Arson Department will always send one or more men to assist

(*Continued on page* 386)

What Should Modern Rules Include?

Rules and Regulations for Operators of Fire Alarm Telegraph Systems Considered—Fourteenth of Series

IN this installment of the series of articles on the rules and regulations of fire departments are considered the rules pertaining to fire alarm telegraph operators, continued from last issue. There are forty-five rules for the operators contained in the forty-one reports analyzed, as compared with seven rules for assistant superintendents of telegraph fire alarm systems considered in the last issue of FIRE ENGINEERING.

Of the forty-one cities only two cities have incorporated the following three rules:

"The hours of duty of the Fire Alarm Operators shall be assigned in three watches daily, namely from 12 midnight to 8 a. m., from 8 a. m. to 4 p. m., and from 4 p. m. to midnight and the Chief Operator shall so arrange the detail for such watches that there will at no time be less than two operators on duty at all times."

"They shall familiarize themselves with all the duties, rules and regulations pertaining to their service. They shall familiarize themselves with the various chiefs and Company districts. They shall remain in their office at all times unless properly relieved."

"Any abnormal condition of the circuits to be reported immediately to the Foreman of the Linemen, or Lineman on duty, and entered into the 'trouble' book."

The rules which follow have been found listed in but one city each:

Fresno, Cal.

"Excepting on order to contrary received from the Chief or Deputy Chief of Department, Fire Alarm Operators on duty are charged with full and sole responsibility of keeping the apparatus of the Department properly stationed to insure a maximum of protection to the city from fire under the emergency of the moment. They may, on alarms of fire, temporarily relocate apparatus as they deem best to provide efficient distribution of such apparatus. Whenever in an emergency the Fire Alarm Operators in exercising their best judgment temporarily relocate any Department apparatus they shall immediately, by proper signal, notify the Chief of Department, through his operator, at the earliest moment of such relocation of apparatus giving such detail of the movement as will fully inform him as to the location of all apparatus remaining in quarters."

"No member of the Department below the rank of District Chief shall visit the Fire Alarm Station between the hours of 8 a. m. and 8 p. m., unless he shall have first obtained permission from the Chief or Deputy Chief of Department."

"Fire Alarm Operators shall whenever a second or greater alarm of fire is struck, call all available members of the 'off' shift immediately after sending out such second or greater alarms, and instruct them to report to the chief officer in charge of the fire."

Denver, Colo.

"In case of still or telephone alarms, they shall promptly notify the nearest company or companies, and the Assistant Chief in charge of the district."

Waterbury, Conn.

"Fire Alarm Operators shall keep a daily report of all fires, noting the day, date, etc., and shall be signed by all employees assigned to this duty."

"Operators shall wear the regulation uniform in reporting for duty, and also upon leaving the station. They shall also wear uniforms while on duty, except at such times as they may be excused from doing so by the Superintendent of Fire Alarm Telegraph."

"Fire Alarm Operators shall recognize a request from any officer of the Department to send in an alarm from any certain box without waiting for the said box to be pulled. Before sending out the box, however, the operator shall notify at least one company by telephone, either by name or street, the exact location of the fire so that no time will be lost in responding to the bell."

"Fire Alarm Operators shall notify the Police Department of all bell alarms, the notification to be made through the special wire connecting the Police Headquarters with Fire Headquarters. The police shall also be notified whenever there is a still alarm in congested districts."

"Members of the Bureau of Fire Alarm Telegraph shall not drink while on duty, and shall not enter any place where intoxicating liquor is sold or exposed for sale."

"Members of the Bureau of Fire Alarm Telegraph are subject to duty at all times and shall not leave the city without the sanction and approval of the Superintendent of Fire Alarm or his authorized deputy or assistant."

"All chores, incidental to the work in the operating room, such as cleaning up, etc., shall be performed by the day or 8 to 4 o'clock shift. Other duties as prescribed by special orders already issued shall be performed by the respective shifts."

Baltimore, Md.

"In the absence of the Superintendent or Assistant Superintendent of Fire Alarm, the senior fire alarm operator on duty shall assume such functions as those prescribed for the above."

Newark, N. J.

"Current readings on all box circuits are to be made at least every hour by the operator."

"The operators, on completion of their tour of duty, will enter in the journal the current and resistance readings of each box circuit."

"The on-coming operators will check and if correct, O.K. the readings of the out-going shift."

"When a still alarm is received the operator shall notify the Salvage Corps of same by telephone, giving location and nature of the fire."

"No operator shall skip an alarm when sending in a second, third or greater alarm of fire."

"Before transmitting the box assigned by the A. D. T. for an alarm received from that office, the box number is to be checked for correct location."

Toledo, Ohio

"The Fire Alarm Operator will be held responsible for the condition of both the Fire and Police lines and will make tests for trouble, etc., showing the Police operator all the workings and explain all the different instruments and methods of testing."

"The habit of 'listening in' on different conversations over the fire lines shall not be tolerated. The board is equipped with visual lamps and when the parties are through talking, the operator will get the signal, which is sufficient."

"The manual transmitter must always be kept ready for fire division use. In case of two calls, fire and police, transmit the fire call first."

"Operators shall address all persons either in person or over the telephone by their respective title, such as Captain, Chief, etc."

"The fire alarm operator will ascertain what the nature of a fire is as soon as possible after getting his report."

"Quietness must always be maintained in the operating room."

"Operators will under no circumstances assume any responsibilities as to the workings of the Fire Division, and shall deliver no orders to the different companies or officers unless directed to do so by their officers."

Fire Alarm Telegraph Linemen

The rules pertaining to fire alarm telegraph linemen number eighteen. These are to be analyzed as follows:

In six of the forty-one departments considered the following rule is incorporated:

"Linemen shall, under the supervision of the Superintendent of Fire Alarm, make all necessary repairs and inspections; keep all lines, gongs, fire alarm boxes, and other equipment in perfect working order. They shall be held responsible for the proper care of all trucks, tools, and equipment entrusted to their care."

Two of the departments enforce the following two rules:

"Linemen shall perform such other duties as may be required by the Superintendent of Fire Alarm."

"Linemen are subject to duty at all times and shall not leave the city without the sanction and approval of the Superintendent of Fire Alarm or his authorized deputy or assistant."

The following rules have been found listed in but one city each:

Waterbury, Conn.

"Linemen shall not be required to wear uniforms, with the exception of regulation cap and blouse, while actually engaged in the work assigned them."

"Linemen shall notify the Superintendent of Fire Alarm Telegraph or his Deputy, or leave word at Headquarters, of his whereabouts while off duty. This rule must be strictly adhered to."

"Linemen shall not drink while on duty, nor shall they enter any place where intoxicating liquor is sold or exposed for sale."

"The hours of labor for the members of the construction branch shall be subject to the time fixed by the Superintendent of Fire Alarm, but their exact location must always be known at Headquarters so they may be found if necessary."

"Members of the construction branch shall be allowed to remain off duty on Sunday by the Superintendent of Fire Alarm, but their exact location must always be known at headquarters so that they may be called if necessary."

Baltimore, Md.

"Linemen shall furnish the Superintendent of Fire Alarm, in writing, with all changes made in the routes of the overhead or underground circuits, so that proper record of same can be made."

"Linemen shall submit a report in writing at the end of the day to the Superintendent of Fire Alarm, of all work done by them."

"Linemen shall submit a daily report of all repairs to equipment and all work done, specifying the time of notice of required repairs and time such repairs completed (This not to apply to work done under the direct supervision of the Assistant Superintendent or Fire Alarm Telegraph.)"

"Linemen shall during a storm communicate with and remain within call of the Fire Alarm Headquarters so as to be in position to give prompt attention to any breakage or damage to the system at any time."

Newark, N. J.

"One of the Linemen shall have the title of Foreman of Construction. He shall, under the direction of the Superintendent of Fire Alarm, have charge of construction and repairs of fire alarm in the city. He shall have charge of and be responsible for tools, and at the close of the day he shall report to the Superintendent in writing, when required, and he shall keep informed as to the whereabouts of all linemen."

"Linemen shall take care of the battery room under the direction of the Superintendent of Fire Alarm Telegraph."

Akron, Ohio

"Linemen shall take care of automobiles and help in any other work pertaining to the telegraph department."

"Linemen shall be subject to the same rules as to uniform, conduct, discipline and offenses as are provided for the members of the Fire Department generally."

Providence, R. I.

"All linesmen off duty will upon receipt of a third or subsequent alarm, report at Fire Alarm Headquarters for such duties as the Superintendent of Fire Alarm may assign them, and will also be required to report, when called, for any emergency."

(To be continued)

Nuns Guided 213 Pupils From This Fire Trap

Lay teachers and nuns guided 213 pupils from the St. Malcachy's school, a frame constructed building in Brooklyn, N. Y. None of the children were injured but the building was razed.

Reservations Asked for N. E. Exhibit

Contract forms have been prepared for those who desire to secure exhibit space for the seventh annual convention of the New England Association of Fire Chiefs that will be held in New Haven, Conn., June 25-27. The Second Regiment Armory will be used for the display, and space is being rented at ten cents a square foot.

Arrangements of Booths in Second Regiment Armory

Manufacturers interested in displaying their equipment at the convention should write to Chief John S. Pachl, Annex Fire Department, New Haven, Conn.

C. H. Arnold Co., Has New Line—The C. H. Arnold Company of Pittsburgh, Pa., sales agents for contractors' equipment, have made arrangements to represent The Grether Fire Equipment Company of Dayton, Ohio, in Pennsylvania. This department will be in charge of W. S. English who represented the Grether interests in Pennsylvania for the past six years.

WITH THE EDITOR

Rivaling the Doctors

The fireman's life is a varied one and his duties lead him into many peculiar situations. One of the most remarkable of these has arisen from the humanitarian work which the Fire Department of Milwaukee—in company with those of many other cities of importance—has performed through its rescue squad. Of late the inhalators and oxygen tanks of this unit in the Wisconsin city have been called into service quite often in the emergency treatment of cases of asphyxiation, drowning, heart disease, infants in convulsions, and many other ills of humanity. During 1928, it is said, some 507 such emergency cases were treated by the rescue squad, and thus far this year the number has amounted to 245.

Now the physicians of the city are up in arms, for reasons not stated. The complaints have gone so far that an investigation has been started by the County Medical Society.

The action of the physicians does not place them in too enviable a light. The work of the rescue squad of the Fire Department, in the majority of cases, has been performed for persons in dire stress and whose lives have no doubt been saved by the prompt action by the firemen. Also, in most instances, this gratuitous work has been performed for those whose slender means could ill afford the fees charged by physicians for such emergency service.

There is no department of the city's service which is more often called upon for service to humanity than the fire department. In storm and flood, in earthquake and catastrophe, the first men to throw themselves into the front of danger and necessity are the members of the fire-fighting forces. No task is too arduous or no situation too perilous for these men to risk their lives in the service of their fellows. If, then, they can help humanity by their skill and their appliances in time of emergency, we say, even at the expense of treading on the medico's toes, "Go to it!"

An Unselfish Act

Whatever may have been the cause for such a condition, or the necessity from which it arose, the action of the members of the Des Moines, Ia., Fire Department in voting to take a voluntary lay-off of two weeks without pay deserves the highest commendation.

It seems that the Superintendent of Public Safety of the city notified the members of the department that the city could not meet its obligations unless assisted by the municipal employees. One shift of the Fire Department was the first to fall into line with his suggestion that the members take the two weeks' lay off without compensation, in order to save the city the amount of their salary during that period. This was done with the express understanding that the other branches of the city departments do likewise.

An action of this kind illustrates the kind of spirit which animates the members of the fire department. It is a pleasing combination of patriotism and self-forgetfulness for the public good, and forms an example which may well be followed by other branches of the city service.

It is quite characteristic that the members of the Fire Department should be the first to take the needed step to replenish the city's depleted treasury. In fact, in instances of this kind, where the welfare of the city is involved, it will often be found that the fire department leads in movements to relieve the situation and restore confidence and a proper equilibrium. This is often done with little prospect of return to the fireman for his unselfish action, but, in spite of this, there is no hesitation in his public service.

There is nothing surprising in all this. The work of the fireman and his environment tend to develop in him a tendency to unselfish service. He is the natural guardian of the city and its inhabitants from fire, and thus other acts of a beneficent nature come more naturally to him that to others who are engaged in a more selfish pursuit.

Giving Firemen Extra Jobs

Every so often some city manager or commissioner of safety awakes to the idea that the firemen of his city are not sufficiently employed or have too much idle time upon their hands. He then casts about to discover some extra jobs that they may be drafted into, so that they may be kept out of mischief.

The City Manager of Cincinnati evidently has made this "discovery," for he has worked out an elaborate scheme by which the firemen of the municipality are to assist the police in the maintenance of order. In order to work out this plan, he has fallen back upon an article of the Administrative Code of the city which gives him authority to use the Fire Department in assisting to preserve peace within the city limits and in the suppression of riots. He can grant, by the provisions of this ordinance, police powers to the members of the department.

As this elaborate scheme has been worked out, on the sounding of a general police alarm in the fire houses, the apparatus will be moved out to some sixty-five important street intersections, blocking the passage of automobiles, and, it is hoped, thus prevent the escape of criminals from the city.

All of this is, no doubt, very fine and a great help to the Police Department, but how about the duties to which the Fire Department is devoted and for which it is maintained? As an example, suppose that this large number of apparatus is called out on this special police duty, and while out of quarters and scattered all about the city a general alarm fire occurs. The delay in reassembling the companies for their proper duty might very easily spell disaster.

The Fire Department is employed for a specific purpose just as much as is the Police Department. The fact that the members occasionally have periods of inaction does not enter into the question. It certainly is no excuse for withdrawing the protection from fire that the department gives the city for even five minutes, on the ground that the members are enjoying a few moments of relaxation from duties that are often onerous and perilous. Eternal vigilance is the price of fire safety as well as of liberty, and just so far as this vigilance is relaxed, the usefulness of the fire department will be lessened.

As a matter of fact, the modern fireman has not nearly as much leisure time as is popularly supposed. What with his duties in the fire school, in drill and training, and in inspections, his time between active service is pretty well taken up, and much of what is left will be occupied by the ambitious member in study and endeavor to improve himself in the science of fire fighting.

MANY VISITING OFFICERS ATTEND NEW YORK FIRE COLLEGE COURSE

Chief Kenlon Stresses Variety of Specialized Subjects Required to Become Competent Officer—Department Must Anticipate Construction

By WILLIAM JEROME DALY

THE Spring session of the New York Fire College opened April 17 with twenty-four lieutenants, one captain, ten visiting officers from other cities and four representatives of the Survey Staff of the National Board of Fire Underwriters in attendance. The Underwriters were observers only. Chief Kenlon delivered the opening address. He said in part:

"These are days of specialization, the field is so large and so much ground has to be covered that it is impossible for any human being to have technical or expert knowledge of all departments of education, therefore it is put into specialized lines. It is a strange fact, but in fire prevention, fire fighting, and fire protection, we embrace many of the arts and sciences. Our business requires knowledge of mechanical engineering, chemistry, architecture, hydraulics and hydrostatics. Our men are not recruited from the colleges or the universities, but from the average citizenry of this country and this is true of all the cities in the United States. I hold that the man who comes from the ranks, studies his profession sincerely, is equal, if not superior to the boy who goes to a technical school, and who might lack the ambition and the physique of the man from the ranks."

Chief Kenlon spoke at length about the drill school and the company school. The latter he said was the real test of the company officer. Officers he declared are like an electric circuit—some positive and some negative. He explained the difference between tactics and strategy and told about the proposed 110 story Larkin Tower. He said he wanted the Fire Department to be ahead of building architects. He declared that the elevators were the real problem of such a building and not the fire fighting equipment—"we can take care of it" he exclaimed, as he told of astounding the engineers and architects of the building who anticipated fire department opposition.

The chief said that special steel fittings would be necessary in the standpipe system of such a high building to withstand the pressure which he declared would have to be 1,000 pounds. He said he did not care how high buildings were built, so long as they complied with the standpipe rules. The veteran fire fighter took a sugar-coated slam at the Underwriters when he exclaimed that they do not know everything about fire fighting He took issue with a question asked in a recent Civil Service promotion examination relative to "what is a back draught?" The chief declared that he doubts if the persons who propounded that question know the answer themselves. He said it was sometimes difficult to tell just what a back draught is. He gave "distillation of wood" in a building as one of the causes, stating that wood has a certain amount of alcohol in it. He pointed out that back draughts are rare in fireproof or modern buildings.

Then in his well-guarded misgivings about the reasonableness of such a question, he smilingly turned toward the Underwriters present and reminded them that they too do not know it all either. The Underwriters smiled in acquiescence.

Attending the New York School are: Asst. Chief Francis C. Spaine, New Haven, Conn., rolling with the 2nd Division; Battalion Chiefs Thos. H. Cotter and Charles F. Dyer of Providence, R. I., Cotter at the 8th Battalion and Dyer at the 9th; Capt. Edward A. McGinley and Harry Menzel of East Orange, N. J., McGinley at Eng. 1 and Menzel at Eng. 19; Capt. Harold Bailey, Bloomfield, N. J., at Eng. 65; Capt. A. R. Evans of Lynchburg, Va., at Eng. 14; Deputy Chief Arthur E. Miller, Malden, Mass., at the 3rd Div., and Capt. William Wandras of Kearney, N. J., at H. & L. Co. 24

Capt. Evans of Lynchburg, Va., stayed only two days. He was not feeling at his best, was constantly cold and complained about the disagreeable weather of New York.

Special Train for Convention Trip

A special train has been chartered to transport chiefs from the eastern states around New York to the International Association of Fire Chiefs convention to be held in Birmingham, Ala., October 22-25. A number of stop-overs will be made at points of interest along the route so as to make the train ride more enjoyable.

A. R. Brown

A. R. Brown of the American-LaFrance and Foamite Industries, Fisk Building, New York City, is in charge of arrangements, to whom all reservations should be sent.

According to the present schedule, the party will leave from the Pennsylvania Station, New York City, on October 20 at ten a. m. and the special train will arrive in Chattanooga the following morning. Motor cars will meet the train to take the party through Chickamauga National Park where many battles of the Civil War were fought. In addition to the park, the visitors will be taken to the summit of Signal Mountain where luncheon will be served at the Signal Mountain Inn.

After luncheon the party will be taken on another trip to the top of Lookout Mountain where Point Rock is located. This is a mass of jutting rock which overhangs the Tennessee Valley like a balcony. It was on the summit of this mountain that the historic "Battle Above the Clouds" took place.

From the mountain, the party will be taken back to the special train. At eight o'clock in the evening, Birmingham, Ala., will be reached.

The return trip will be made by way of Asheville where a trip will be made to the home of the late George W. Vanderbilt and through the Craggy and Black Mountains.

The total cost for the trip including lower berth and all side trips is $97.34. This does not include hotel expenses while in Birmingham.

Two Fire Houses Opened in Dallas, Tex.—Over one thousand persons inspected the new central fire station and the consolidated station in Dallas, Tex. Refreshments were served on the third floor of the central station, and music was provided for those desiring to dance.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Placement of Ladders and Ventilation

To the Editor:

I'll appreciate it very much if you will answer the following questions in an early issue of FIRE ENGINEERING.

T.

Question 1. How far from the face of a building would you place the butt of a 35-ft. ladder and how should distance be figured?

Question 2. What is the proper way to enter a cellar filled with smoke?

Question 3. How would you ventilate a building filled with smoke?

Answer 1. For trussed ladders, the distance the butt of the ladder is to be placed away from the building can be determined by dividing the length of the ladder by five and adding two to the quotient so found. For a 35-foot ladder we would have $35 \div 5 = 7 + 2 = 9$ feet. In other words, the base of the ladder should be placed 9 feet from the building.

If the ladder is a solid side ladder, the rule is to take one-eighth the length of the ladder as the distance the butt should be placed from the building. One-eighth of 35 would give us approximately 4½ feet, which is the distance the butt should be placed away from the building.

Answer 2. This depends entirely upon the nature of the smoke. If it is mixed with gas, there will be extreme danger in entering the cellar until satisfactory ventilation is provided. In any case the proper plan is to provide ventilation before men enter the cellar. If the smoke is dense and if the nature of the occupancy is such as to create dangerous fumes, men must be provided with gas masks or self-contained breathing apparatus. If the fire has been burning for some time, and it is likely that there is a deficiency of oxygen, then self-contained breathing apparatus only should be used. In ventilating the cellar, front and rear doors should be opened as well as windows. Inside entrance to stairway may also be opened if necessary.

If there are no outside entrances to basement, then it may be necessary to remove a board from the floor over the basement, taking care to cover exposures with streams when the board is removed.

Answer 3. The usual method of ventilating a building filled with smoke is to first remove the coverings over elevator, stair, dumbwaiter or other shafts. Then start at the top floor, working down, and pull the windows down from the top on each floor. (If a single room is being ventilated, windows are pulled up from the bottom and down from the top. Where a whole floor is being ventilated, however, it is only necessary to pull the windows down from the top.)

Fighting a Gas Station Fire

To the Editor:

In fighting a gas station fire where you have no pumper, but have fair water pressure, and hydrants are close on both sides, what procedure would be followed? We have two foam 40 gallon extinguishers.

Some of the boys here suggest that we should wet down the sides of the tank with water streams so as to slow down evaporation of gasoline and prevent it overflowing and let it burn itself out; others claim that if you wet the sides of the tank, it will burst. They have asked me to get all the information, and I shall appreciate your advice.

N. M.

Answer: The exact problem you have on hand is not clearly outlined in your letter. You refer to "tanks," and it will be assumed that the gas station you have reference to is a distributing station rather than an automobile filling station. In this case you have an exposed gasoline tank mounted probably on concrete footings.

In this instance, it is good practice to use water streams on the sides of the tanks to keep them cool. This will retard the rate of burning of the gasoline and will also prevent rupture of the seams. There is always a possibility of seams letting go when a tank heats to a high temperature. As far as the foam extinguishers are concerned, they would probably prove effective against a fire of this type if promptly and properly used.

On the other hand assuming that you have in mind an ordinary gasoline filling station, with portable tanks for filling, then the foam extinguishers will answer your purpose. Water streams may be used to protect exposed property around and also to wet down the tanks. Care should be taken in all cases, however, not to let water enter gasoline containers where fire is burning, for boil-over will likely occur and may spread the fire.

"Science in Fire Fighting"

To the Editor:

Can you advise me where I can secure copies of "Science in Fire Fighting" by former Battalion Chief Luke Flannigan of the New York Fire Department? I understand this book gives a great number of problems on mechanics, such as leverage, etc., and I am anxious to secure a copy of it.

W. H. H.

Answer. You may secure copies of "Science in Fire Fighting" from the Book Department of Fire Engineering, 225 West 34th Street. The book retails for $3.15 postpaid.

Pumper in Tandem With High Pressure Hydrant

To the Editor:

Being a regular reader of FIRE ENGINEERING, I would appreciate very much an early reply to the following question, which has been the source of considerable discussion in our company.

F. A. K.

Question. If a motor pumping engine, rated at 300 pounds pressure, is hooked up in tandem with a high pressure hydrant, delivering 300 pounds pressure to the pumper, what would be the effect at the pumper outlet?

Would the pressure at the outlet be the same as the hydrant, or would it be increased and how much?

Would the discharge from the pumper be the same as from the hydrant or would it be increased, and how much?

Answer. If a motor pumping engine rated at 300 pounds pressure is hooked up in tandem with a high pressure hydrant, delivering 300 pounds pressure to the pumper, the pressure at the discharge outlet of the pumper would be somewhat less than 600 pounds, assuming that the pumper was delivering a pressure of 300 pounds to the water which was supplied to it by the hydrant. The difference between the pressure at the pumper outlet and 600 pounds is due to the loss of pressure by friction when water is passing through the pumper. In answering examination questions it is usually assumed that the pressure at the discharge outlet of the pumper will be equal to the pressure created by the pump plus the pressure of water delivered to it. In this case it would be assumed that the discharge pressure is 600 pounds.

The discharge from the pumper under the above condi-

tions would be the same as that being delivered by the hydrant, the only function of the pumper in this case being to raise the pressure. As a general rule, any pressure delivered to the pumper by a hydrant makes it possible for the pumper to discharge more water at a moderate pressure. It is the power of the gasoline motor that determines the performance of a pumper, and if the gasoline motor is helped in its work by the pressure furnished by the hydrant, it can naturally operate at a higher speed, thus increasing the discharge.

THREE DAY FIREMEN'S SCHOOLS PLANNED FOR STATE COLLEGES

Proposed Course Being Arranged by Special Committee of National Fire Waste Council—Many Subjects to be Presented

THE Fire Service Extension Committee of the National Fire Waste Council was appointed to organize in each state a short course for firemen, to be conducted under the auspices of the State Universities. In states having no state university, one of the leading educational institutions will be asked to conduct the court. The plan has already been tried in a number of states and the results accomplished justify the extension of this training to all parts of the Union.

In addition to practical instruction in the best methods of fire department manoeuvering, including the raising of ladders, laying of hose, ventilation of burning buildings, and rescue and first aid work, the firemen and officers will be taught building construction, fire prevention, elementary hydraulics, knowledge of dangerous chemicals and gases, etc.

While most of the instructors will be university professors and fire department drill masters from the larger cities or the state, this committee has secured the services of experts from various government departments, the National Board of Fire Underwriters and others, to assist in this work.

As there will be one or more students from each town having an organized fire department, either volunteer or paid, the information obtained will be disseminated throughout the state and will result in a wonderful improvement in fire fighting methods as well as inspection details. Efficient fire departments no longer flood a building with water to extinguish a small fire, neither do they play checkers in the fire station while waiting for a call. Fire fighting is now a science and requires carefully selected and trained men. More important than fire fighting is fire prevention, which means the rigid enforcement of adequate ordinances and thorough inspection of premises by trained firemen.

This committee hopes that immediately upon the completion of a fire college, a school of instruction will be established in each town and that the graduates, acting as instructors, will impart to their comrades the knowledge they have obtained.

It is planned to select a committee of five or seven outstanding leaders in public affairs to sponsor the movement in each state. The local committees will have full charge in their respective fields and the National Committee will act only in an advisory capacity.

Organization and Operation

The State Fire Service Extension Committee should have complete charge of all arrangements for the Fire College.

At the first meeting of the Committee, it might be well to have present (by invitation, if any of them are not members) the President of the State University, State Fire Marshal, Manager of the State Bureau or Association which makes the fire insurance rates, Secretary of the State Chamber of Commerce, Chief of Fire Department of the principal city in the State, and Secretary of the State firemen's and (or) fire chiefs' organization.

After making the preliminary plans and arranging for the University to conduct the course, a date and place for holding the college should be selected. If the firemen have an organization which holds annual meetings, a better attendance would be secured if a date were selected immediately following their meeting.

The ideal place to hold the college would be in the city in which the university is located, but ordinarily better results will be obtained if it is held in the most centrally located city, having a drill tower and modern equipment. If the city in which the college is held is large, the students may be quartered at night in the fire stations and secure additional experience by responding to alarms with the apparatus.

As soon as the time and place are selected, notices should be sent to all cities and towns having organized fire departments. The notice should be accompanied by an invitation to send at least one student for each twenty-five men in the department. If possible there should be sent at the same time a printed program, containing a list of the subjects to be covered, names of lecturers, and all necessary instructions.

The committee will have to have at its disposal a small sum of money for postage, printing, etc. This is ordinarily taken care of by the fire marshal's office, or by means of a small registration fee.

Each man should be instructed to bring with him a suit of old clothes, a pair of comfortable shoes, and a note book and pencil.

In addition to issuing to each man who attends the college a certificate, it is thought advisable to issue to those who merit it, a small bronze badge that can be pinned on the uniform.

In states where fire colleges have been held prior to the organization of this committee, it would be well for the State Fire Service Extension Committee to work out some plan of cooperation. Regardless of how efficiently these colleges have functioned, better results will be obtained if all colleges operate under the direction of the National Fire Waste Council.

The proposed subjects to be covered include protection of existing business districts, hazards (common and special), responsibility of citizens, chemistry of fire, fire department fire prevention, explosives including dust explosion hazards, electric hazards, municipal and state laws on fire prevention, building inspections, standard fire escapes and exits, building codes, fire control, practical training for firemen, construction, operation and maintenance of automotive equipment.

Atlantic City Suffers Fire Loss on Pier

A defective wire is held responsible for the fire that swept the large Central Pier at Atlantic City, N. J., and caused damage estimated at $500,000. Nearby hotels were threatened. The photograph was taken while the fire was at its height and when, due to the flames, the heavy electric sign crashed through the roof.

Lloyds of London Presents Medals

Four enlisted men and one officer of the United States Navy were presented with medals by Lloyds of London for meritorious service in extinguishing a fire in the hold of the British steamer Port Napier on August 24, 1928, at Tutuila, Samoa.

The master of the Port Napier notified the radio station at Tutuila that his vessel had a fire in the hold and he was changing his course for Tutuila. Upon arrival of the vessel it was found that the burning cargo consisted of high combustibles. Despite the imminent danger, these men voluntarily entered the burning hold and rendered valuable aid in throwing the flaming cargo overboard. As a result of their efforts, the fire was extinguished.

Lloyd's medal for meritorious service was instituted in 1893 and is presented to ship's officers and others who by extraordinary service have contributed to the preservation of ships or their cargoes from perils of all kinds.

Two Views of the Fire That Destroyed the Philip Levy & Co., Furniture Warehouse in Roanoke, Va.

APPARATUS DAMAGED IN FIRE THAT DESTROYED WAREHOUSE

Brick Walls of Old Type Building Crash—Ten Streams Directed on Blaze—Cause of Fire Undetermined—One Fireman Injured

A SINGLE brick wall was all that was left of a furniture warehouse in Roanoke, Va., after the fire department had unsuccessfully to control the brize that caused a $135,000 damage. One fireman was injured but not seriously.

A passerby discovered smoke issuing from the roof of the warehouse, and the alarm was turned in at 1:21 P. M. Four minutes later firemen had the first line playing on the fire. By two o'clock the fire had a good hold and flames broke through the roof. At 3:30 the roof and walls fell with a crash that was heard throughout the down town district. At that time there were ten streams directed on the fire.

When the walls fell, some bricks buried the legs of a fireman. He was removed to the hospital where it was found that he suffered from abrasions, but his injuries were not serious. Bricks showered on three pieces of fire apparatus and damaged the machines.

The building was an old joisted brick structure erected in the days when steel construction was unknown. Five carloads of furniture had been recently placed in the building. No one knows what caused the fire. Smoking was never allowed, and every fire precaution, it was claimed, was used to prevent fires.

The lone surviving wall was ordered pulled down as a safety measure to passers-by.

The damaged aerial truck was sent to a local shop for repair. Another will have to be sent back to the manufacturers before it can be placed in service again.

Fire Ends Clara Bow "Talkie"

Fire destroyed the new $1,500,000 sound-proof "talking" stage that was erected by the Paramount-Famous Players-Lasky Studios to make a number of new productions including one in which Clara Bow, she of the animated hips, was to have starred.

Five men were injured and a number of firemen were overcome by smoke in fighting the blaze. Only a mass of smoldering ruins mark the location of the new expensive improvement.

The burning of the building attracted a number of motion picture people and thousands who live in the sections about Hollywood. The building occupied a space 350 by 180 feet.

Fire Damages St. Petersburg Hotel

A short circuit in the top of an elevator shaft in the Alexander Hotel in St. Petersburg, Fla., is held responsible for a fire that damaged several rooms.

When the firemen arrived, they immediately rushed to the top of the building where they found the top of the elevator shaft on fire. The blaze was extinguished in less than one-half hour. Chief Towey of Newark, N. J., who was there at the time and saw the department in action, complimented the St. Petersburg, Fla., firemen in the manner in which they handled the fire.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

Week Ending April 20

CORTLAND, N. Y.—Stores at 9 & 11 Clinton Ave..... 25
DETROIT, MICH.—Burke Furniture Co. and adj. bldgs..... 400
NEWARK, N. J.—Emmanuel Reformed Church..... 75
WEST EVERETT, MASS.—Main St. business property..... 25
CLEVELAND, O.—Property at E. 4th St. & Prospect Ave..... 650
PORTAL, N. DAK.—Grand Theatre damaged..... 650
NASHUA, N. H.—Business property of Wm. Beasom..... 30
GOULD CITY, MICH.—Post office and adj. bldgs..... 80
MONTREAL, QUE.—Somerset Apt. bldg..... 20
ST. PAUL DU BUTON, QUE.—Catholic Church destroyed..... 75
CARNEGIE, PA.—Plant of W. C. Hardesty Co., near here..... 400
PHILADELPHIA, PA.—Gem Clothing Co., Market St..... 80
DANBURY, CONN.—German Lutheran Church damaged..... 125
BEATTY, OREG.—Post office and adj. property..... 30
PASSAIC, N. J.—Property of A. and S. Rachles..... 25
TIMMINS, ONT.—Property of Gold Feilds Theatre Co..... 30
NASHVILLE, TENN.—Holland Hotel destroyed..... 35
ARVERNE, L. I., N. Y.—Hotel Colonial, adj. bldgs..... 150
BRISTOW, IOWA—The Finke store bldg..... 30
WILKES BARRE, PA.—Plant of Roll Biscuit Co..... 25
MONTREAL, QUE.—Vessel of Eastern Steamship Co., Ltd..... 80
BUFFALO, N. Y.—Whse. owned by Weed & Co..... 400
WILKES BARRE, PA.—Penn. Mfg. Co. bldg..... 80
CHESTER, PA.—Chester Wholesale Grocery Co..... 40
LOMRY, S. D.—General store and garage..... 30
BOTTINEAU, N. D.—C. R. Gleason garage destroyed..... 60
DES MOINES, IA.—Kirkwood Hotel destroyed..... 150

Week Ending April 26

ELIZABETH CITY, N. C.—Planing mill of Chesson Mfg. Co..... 30
HARRISON, N. J.—Stock and bldg. of Cappuccio Bros..... 25
HOBART, IND.—Business district damaged..... 70
SALINA, N. Y.—Several Court St. residences damaged..... 25
CANTON, MISS.—Establishment of J. Perlinsky & Son..... 25
ORANGE, N. J.—American Stores Co. garage..... 30
ROCKAWAY BEACH, N. Y.—McGovern Hotel, adj. bldgs..... 165
ENGLISH, IND.—Masonic Temple and other bldgs..... 50
CHICAGO, ILL.—Bldg. occupied by Mazel-Rest & Co..... 25
CINCINNATI, OHIO—Steamer "Island Maid" damaged..... 25
NORWOOD, MASS.—Guild Grammar School..... 100
DECKER, MICH.—Decker Elevator & Lumber Co..... 65
HEBRON, ILL.—Perry Bros. garage, adj. property..... 30
RED GUM, LA.—Saw mill of Alexander Bros..... 80
FAIRMONT, W. VA.—Home Furniture Co. bldg..... 50
WHITEHALL, N. Y.—H. A. Scott furniture store..... 65
RENSSELAER, N. Y.—R. A. Nalley ice house destroyed..... 50
ST. OLAF, IA.—St. Olaf-Farmersburg creamery..... 25
BROOKLYN, N. Y.—Sherman Soap Co. plant, Classon Ave..... 80
BLAINE LAKE, SASK.—Business property destroyed..... 125
ATLANTA, GA.—Lafayette Apts., 63 Lafayette Drive..... 25
FARRELL, PA.—Plant of American Sheet & Tinplate Co..... 80
SHONTS, IDAHO—Property of Dickens Consolidated Mine Co.... 25
BROCKTON, MASS.—Hotel Norris damaged..... 25

KIRKWOOD, MO.—Frisco R. R. yards	250
PORTLAND, ORE.—Shops of A.hina Marine Works	80
HOT SPRINGS, ARK.—City Hall damaged	30
AUGUSTA, ME.—Business bldg. of Augusta Real Estate Assn.	30
NEW YORK, N. Y.—Business building, 70-72 Worth St.	125
CARBONEAR, NEWFOUNDLAND.—United Towns Elec. plant	125
LOUISVILLE, KY.—Jacobs Shoe Co. store	50
MERRITTAN, ONT.—Town Hall and adjacent property	65

Capt. J. J. McCarthy to be Honored

John J. McCarthy, who headed the list in the promotional examination for Chief of Battalion in the New York Fire Department, is to be honored by a testimonial dinner-dance at the Hotel Pennsylvania, May 14, by the officers and members of the fire department branch of the Holy Name Society. Joseph L. Melody, 2796 Bainbridge Ave., Bronx, is chairman of the committee arranging the dinner.

Capt. John J. McCarthy

The Grand Ball of the hotel has been reserved for this event. The reception is scheduled for 8 p.m. and dinner will be served at 8:30. Tables will be arranged to seat ten persons.

Capt. McCarthy revised and brought the department's Book of Rules up to date. He suggested and was instrumental in perfecting new uniforms for members of the department. In 1925 he was awarded the Administration Medal. He has also been active in the fire department branch of the Holy Name Society and established a mortuary fund and a permanent scholarship fund for the children of members.

New Rochelle's Report Shows Good Work

Chief Walter Jones of New Rochelle, N. Y., has filed with the Board of Fire Commissioners of that city his report of the operations of the Fire Department for the year 1928. He reports that the fire fighting force of that city is now fully and adequately organized on a paid basis, with a captain, lieutenant and complement of firemen for each company. One of the conditions prerequisite to Chief Jones accepting that post of duty several years ago was a full-paid force within a reasonable time.

Six additional firemen were appointed during the year and only one fireman resigned. The city now has 15,546 buildings, 110 public alarm boxes, twelve in schools, and ten in private homes. The department responded to 303 alarms; most fires were in frame buildings, 93 in automobiles, 27 in brick or stone houses and the balance not classified.

There were 30 false alarms and 17 unnecessary. The total duration of all fires during the year was 117 hours and 40 minutes. Of the 303 alarms, the Chief of Department responded to 209, the deputy chief to 195.

Only two fires extended to adjoining buildings, 254 were confined to the point of origin and 119 confined to the floor where the fire originated. Saturday seems to have been the busiest fire day in the week. It leads all others with fifty-four, while Sunday had the least with thirty-four. The department used 1,614 gallons of chemical in fire extinguishment and stretched 33,150 feet of hose for the same purpose. Back fires in automobiles and short circuits lead the list of causes.

The apparatus traveled a total of 913.7 miles, the heaviest month being October with 120.7 miles traveled. The value of property in which fire occurred was $4,837,968 of which $3,878,350 was the value of the buildings and the balance was the value of the contents. The amount of insurance carried on premises where fires occurred was $3,682,500 and the losses paid amounted to $78,544, while the total property loss, insured and uninsured was $83,089.

In fire prevention activities, the department issued 1,031 permits, made 4,440 inspections and collected $2,881 in fees. The uniformed force last year consisted of the following: 1 chief, 1 deputy chief, 1 master mechanic, 6 captains, 6 lieutenants, and 83 firemen.

Chief Jones was formerly a battalion commander in the New York Fire Department. He won his present post by competitive examination. During his administration he initiated the drill school, changed the uniforms and fire turnout equipment from various company colors to a standard design and color and in general modelled the reorganized department as near to the standard set by New York City, where he was an honor man and from which he received the highest testimonials.

WM JEROME DALY.

Box 52 Association Visits New York

Members of the Box 52 Association of Boston made a pilgrimage to New York City over the week end of April 19 to renew some old acquaintances with the New York Fire Department. One well known member of the association was missed. Harry Belknap who was a member of the committee that arranged the visit, was forced to remain at home due to a severe cold. The delegation was in charge of P. Hildreth Parker, president of the club.

The Boston "sparks" were entertained by Dr. Harry M. Archer, New York's honorary fire surgeon. At Dr. Archer's home, the Bostonians were greeted by Chief John Kenlon, Honorary Deputy Chief Robert H. Mainzer, Assistant Chief Thomas F. Dougherty, Honorary Battalion Chief Albert Dreyfous and Wm. Jerome Daly.

Chief Dreyfous gave an hour's exhibition of some special motion pictures of fires and fire department activities. Chief Kenlon made a short address and surprised the visitors with his intimate knowledge of conditions in Boston.

On Saturday, Assistant Chief Dougherty, Deputy Chief John J. T. Waldron and Dr. Archer took the visitors to various points of interest in the city. That evening, the Box 52 Association staged an elaborate dinner party to some New York friends in the Hotel McAlpin. The visitors were guests of the Holy Name Society at its annual Communion Breakfast in the Hotel Astor on Sunday. At this function, Mayor James J. Walker made one of his wittiest and best speeches. Senator David I. Walsh of Boston, also spoke.

The Box 52's were the victims of a practical trick one morning at 5 a. m. Some practical New York joker called the hotel, stated that he was a fire alarm telegraph dispatcher and announced that there was a three-alarm fire sent in from Box 704. The visitors responded as one man, only to learn that Box 704 was on the corner of Broadway and 33rd street, right under the windows of the McAlpin Hotel. There was no fire.

WILLIAM JEROME DALY.

Tank Truck Approved in New York City

Tank trucks manufactured by the Smith-Hamburg-Scott Welding Company for the transportation of gasoline through city streets, have met the specifications of New York city, with the exception of some minor details, according to Peter C. Spence, chief of the Fire Prevention Bureau.

Last month a tank truck built by the company was subjected to the most severe test possible. It was loaded to overflowing with oil and placed over a fire. The truck emerged from the test with no serious damage and with no explosion resulting. The minor specifications that the truck failed to meet were the location of the car's tail lights, and the use of wood in the construction of the driver's cab. The manufacturing company has assured the city that changes will be made so that these minor defects will be corrected. A permit will be issued so that trucks made by this company will be permitted to transport combustible fluids through New York City streets.

Lightning Strikes Fire House—Men sitting in Station No. 61, Pittsburgh, Pa., narrowly escaped injury when lightning struck the hose tower and brought down a shower of bricks. The bolt caused $500 damage.

Fond du Lac, Wis., Buys Pumper—Fond du Lac, Wis., has ordered a Pirsch 1,000-gallon pumper. Delivery will be made in about sixty days.

Eighteen Lake Front Cottages Destroyed—A firebug is believed to have started fires that destroyed eighteen of the summer cottages on the lake front at Erie, Pa. For a time the fire threatened to wipe out the entire summer colony.

Many Transfers in Bayonne, N. J., Department—Thirty-nine transfers were made in the Bayonne, N. J., fire department because three new reserve engines and a truck were placed in operation.

THREE NEW FIRE HOUSES PLACED IN SERVICE IN TACOMA, WASH.

Two Houses Erected in Residential Sections of City and Other Designed to Protect Manufacturing Sections—Spanish Architecture Used

THREE fire houses, constructed of brick veneer, have been placed in service in Tacoma, Wash., on February 1. The buildings were designed by M. J. Nicholson of the city building department.

Two houses were designed for residential sections of the city. Each will house one company and the buildings measure thirty-eight by forty-four feet. Only the part of the land that extends below the living part of the house has been excavated. The apparatus room has a concrete floor.

There is a small hose tower. Locker space is provided for company supplies. The toilet is finished with white tile and a shower room is provided instead of the customary bath tub. Three concrete steps lead from the apparatus floor to the hall. A drinking fountain is placed here for the convenience of the men. The floor of the hall, dormitory, and living room is laid with select oak.

Each station has a kitchen complete with electric range, cupboards, sink drain board, and dining nook. In the living room is a recess for fire alarm apparatus, telephone and so forth. The dormitory has lockers, which are provided with a drawer so that each man has a place where he can safely store his personal property.

One of Two New Houses for Residential Sections. Grounds Are to Be Landscaped

In the basement is the hot air plant that heats the building and also equipment for drying wet clothes.

The dormitory is across the hall from the apparatus room. The rooms are arranged to give the most comfort to those who will be quartered there.

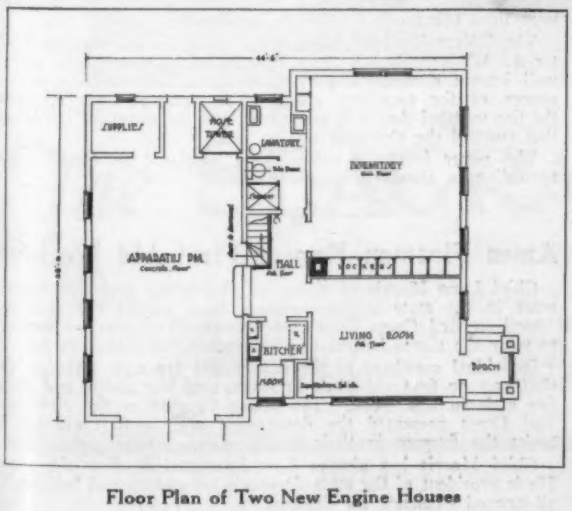
Another house has been built on what is called the tide flats so as to protect a growing manufacturing area. Because of the low ground and water seepage, it was impossible to excavate for a basement. This station is fifty-eight by sixty feet and will house two companies. It is built of tile covered with stucco and is of the Spanish type. The roof is covered with color-blend asbestos shingles.

The whole floor is on one level with the exception of the boiler room which is slightly below the other rooms. The floors throughout are of concrete, but those in the living room and dormitory are covered with battleship linoleum. The floor of the lavatory and the walls to about a six-foot height are covered with tile.

Station No. 15 in the Manufacturing Area

The building is heated by a hot water system operated from an automatic oil burner unit. With these exceptions, the design of this station is very much similar to the other two.

Data on the three new houses was kindly furnished by Chief C. E. Carlson, of Tacoma, Wash.

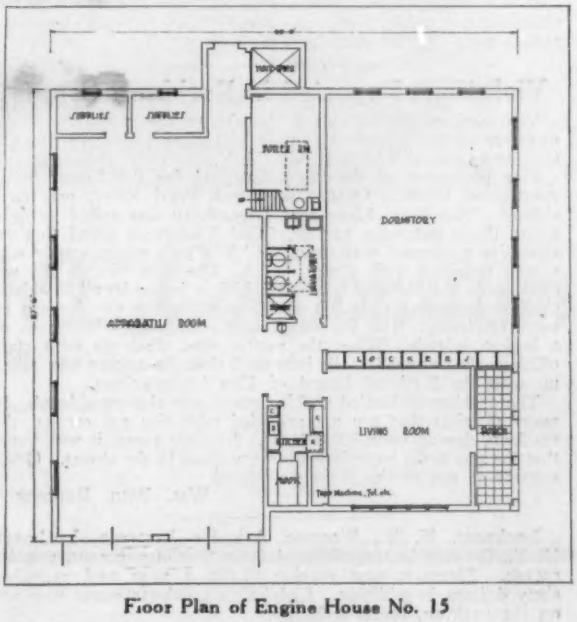


Floor Plan of Two New Engine Houses

Plans Made for Illinois Convention

Arrangements are being made for an extensive display of fire apparatus and equipment at the forty-second annual convention of the Illinois Firemen's Association that will be held in Joliet, Ill., September 10-12. Chief Albert Herring of Murphysboro is chairman of the exhibit committee. The display will be in the Chamber of Commerce Building, the same place where the meetings will be held. A tent is to be erected to house the very large exhibits.

Space in the building is being rented at twenty-five cents a square foot, and a charge of fifteen cents a square foot is being made for space in the tent. Each exhibitor will be provided with a booth free but no decorations or signs will be supplied.



Floor Plan of Engine House No. 15

Iowa to Hold Fifth Short Course

A very large attendance is expected at the fifth annual Iowa Fire School that will be held at the Iowa State College, Ames, Ia., May 21-24.

The course is really a fire school to train Iowa firemen and where city and village officials may obtain information and practical knowledge on new developments in fire-fighting and fire prevention. The needs of both the volunteer and paid departments are considered. Separate sessions are devoted especially to the problems of each group.

No fees are charged for the instruction and the work of the course. Full information on the school may be obtained by writing to Lindon J. Murphy, Municipal Engineer, Engineering Extension Service, Iowa State College, Ames, Ia.

N. F. P. A. Issues Program

The program for the thirty-third annual convention of the National Fire Protection Association, which takes place at the Hotel Peabody, Memphis, Tenn., on May 13 to 16, has just been issued. Over thirty committee reports are listed in the 24 page pamphlet. Among these is included the United States Joint Fire Prevention Committee, consisting of members from the International Association of Fire Chiefs, the American Water Works Association and the National Fire Protection Association, and the Canadian Joint Fire Prevention Committee, with members of the Dominion Association of Fire Chiefs, the Canadian Division, American Water Works Association, Canadian Manufacturers' Association, and the N. F. P. A.

Other important reports are the Fire Marshals' Section, and Committees on Fire Prevention and Clean Up; Building Construction; Fire Record; Storage of Combustible Fibres; Hose Couplings; Hydrants, Valves and Pipe Fittings; Fire Pumps; Hazardous Chemicals and Exposives, Flammable Liquids, Etc.

At the morning session of Tuesday, May 14, Chief T. J. Speddy, Lakewood, Ohio, is to speak on "The Fire Chief's Views of a Community Fire Prevention Program, and Capt. C. P. Remmey, of the Memphis Fire Department, will tell of the "Memphis Method of Protecting Public Buildings."

Apparatus Builder Ends Labor Dispute

An agreement has been consumated between the International Association of Machinists, the Elmira Local No. 421, and the American-La France & Foamite Corporation, settling the differences which have existed for some time between the company and the union. It is believed that this arrangement as made is for the best interest of the men and the company.

The men started to go back to work on Monday, April 29, and will be returned to work just as rapidly as they can be absorbed in the factory.

It is expected that the relations between the men and the management under this arrangement will become mutually satisfactory and beneficial.

Violations Reported in Rockland County

Two serious matters were brought to the attention of the members of the Rockland County Volunteer Firemen's association, at a meeting held in Nyack, N. Y.

Fire protection of the State Hospital for the Insane being constructed between Orangeburgh and Pearl River, was considered. The Pearl River Fire Department was called to fight a fire there and upon arrival, Chief Biederman found that no standpipe equipment was available. The only water supply was a well provided with a pipe outlet. The pipe threads did not conform to the National standard which is in use by all Rockland County departments, and it was impossible for the firemen to work efficiently. The fire was finally extinguished by means of a bucket brigade. When the matter was taken up with state officials, they seemed so ill informed, that the matter was taken up with the National Board of Fire Underwriters.

The problem of bottled cooking gases was also considered. In many districts that are not provided with city gas service, the residents depend upon bottled gas. In some cases, it was found that the gas tanks were installed very close to the stoves. Other matters of gas service were considered.

WM. PAUL BABCOCK.

Lockport, N. Y., Firemen Ask for Increase—Lockport, N. Y., firemen have petitioned for a fifteen per cent. pay increase. Firemen now receive $1,800 a year and captains, sixty dollars in addition. Chief Coyle, whose name was not on the petition, receives $2,750.

Cities That Operate Drill Schools

The New York State Bureau of Municipal Information has conducted a survey to determine which cities in the state conduct drills for training firemen. The following table is the result of the information thus collected:

Name of City	Does Your Department operate a training school for its men?	Is Training School operated each year?	For how long a period each year is your school operated?
Albany	Yes	Yes	April to October
Auburn	Yes	Yes	May 1 to October 1
Batavia	No		
Binghamton	Yes	Yes	May 1 to October 1
Buffalo	Yes	Yes	Eight months
Dunkirk	No		
Elmira	Yes	Yes	Two months pumper work
Glens Falls	No		
Gloversville	No		
Jamestown	No		
Lackawanna	Yes	Yes	All year
Little Falls	No		
Middletown	No		
Mount Vernon	No		
Newburgh	No		
New Rochelle	Yes	Yes	While weather permits
New York	Yes		
Niagara Falls	No		
N. Tonawanda	No		
Norwich	No		
Ogdensburg	No		
Olean	No		
Oneida	No		
Plattsburgh	No		
Poughkeepsie	Will start in spring		Building tower
Rensselaer	No		
Rochester	Yes	Yes	Seven months
Rome	No		
Salamenca	No		
Saratoga	No		
Schenectady	Start this year		
Syracuse	Yes	Yes	Six months
Utica	Yes	Yes	During summer
Watertown	Yes	Yes	May 15 to October 15
Watervliet	No		
White Plains	Yes	Yes	30 days, twice a year
Yonkers	Yes	About to start	Just built

The survey also goes into the method employed for training firemen in communities which do not have a drill tower. A number of the larger villages in the state are also included in the tabulation.

Cable Insulation Blamed for Explosions

The oil-soaked paper insulation that is used by the Edison Electric Illuminating Company to insulate their cables, has been blamed by Fire Marshal George C. Neal for the series of manhole explosions in the shopping section of Boston. The fire marshal believes that the heat from the cables decomposed the mineral oil in the paper and liberated a large amount of gas. This gas finally reached a compression point and then forced its way out by means of manhole explosions.

He ordered the company to replace all paper insulated cables with lines using other forms of insulation.

The Edison Electric Illuminating Company has engaged Walter L. Wedger, former state chemist of Massachusetts and a well known chemical expert to make an investigation of the source of the explosive gases. The company has informed the fire marshal that it is anxious to find the cause for the blasts that startled the shopping section.

The paper insulated cables were insulated for 4,600 volts, according to standard specifications.

Ames Firemen Expert First Aid Workers

Chief Lynn Morris of Ames, Ia., heads the first fire department in the state whose members have passed the National American Red Cross First Aid Course. The men are entitled to wear the sleeve badges and to receive instructors' cards.

Individual members of the department are now assisting the chairman on first aid work in instructing boy scouts and camp fire girls in this work. The Ames Chapter of the American Red Cross presented the department with a first aid kit to assist the firemen in their work.

Chief Morris has always been interested in first aid work. He is president of the state firemen's association and believes in all around efficiency for firemen.

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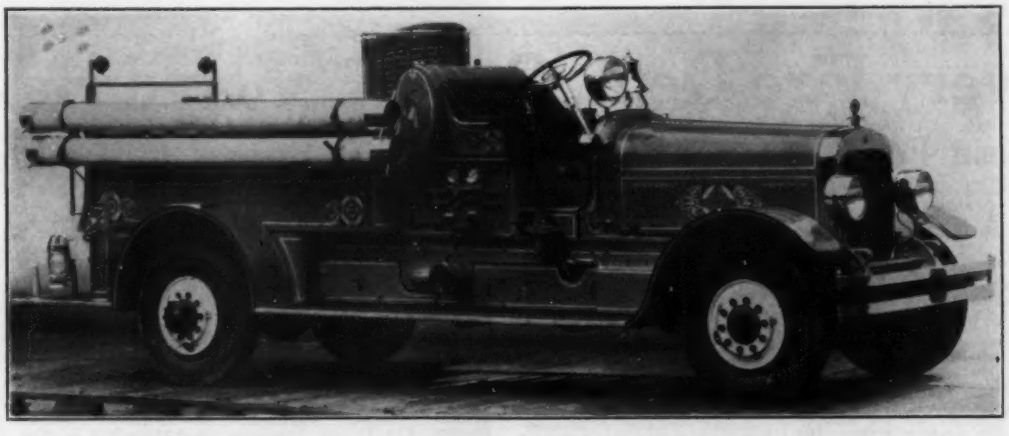

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The Old Tenement—A Life Trap

(*Continued from page 360*)

all persons have had plenty of time to get out, then the methods of operating on the fire deviate from those previously described.

If fire has entered and risen in any of the shafts, lose no time in directing a stream up into the shaft at once to kill the body of the fire and prevent it from reaching the floors above. Rapid extension can be looked for. As in the previous case, a man should be sent from the first company to the roof at once to ventilate by opening up the scuttle cover and skylights.

If fire is burning in stairwell, same procedure as previously described would be employed, namely, two lines stretched in from the first engine company, one to operate up the stairwell and follow the fire up while the second line covers the first line and operates on ground floor and into basement, if such is necessary and possible.

Have members of first truck company make sure that fire is not rising through any other concealed shafts or ducts.

Fig. 2.

Back yard fences, clothes lines and clothes line poles slow up the operations of the department appreciably. In this particular fire a mother and two children were burned to death and several persons were injured. All lived on the top floor.

Have them go through rooms on the various floors to make sure that fire is not coming out of dumbwaiter shaft or from light or ventilating shafts into any of the upper floors. Once ventilation is provided, there is appreciably less danger of this.

If fire originated in basement, it may have gained considerable headway before rising through any of the shafts. After the shafts have been taken care of, attention must be given at once to the fire in the basement. If entrance cannot be made through inside or outside stairways, get celler pipes into operation at once, placing them through the floor at the center of hallway. Basement hallway is very likely to be found directly beneath first floor hallway. Thus if cellar pipes are put in operation in street floor hallway, chances of them producing the maximum effectiveness is very good.

As soon as the main body of the fire has been killed by operation of cellar pipes it will probably be possible for the men to get to the cellar by means of stairways. Care must be taken to protect men in the event that gas meters in the basement have opened up, or connections broken off. While records do not show any great number of firemen having been injured through the agency of gas meters or pipes opening up, still it is a precaution worthy of taking.

As a final word, so important is ventilation considered at fires in old style tenements that one of the most prominent fire chiefs in this country has been endeavoring to secure legislation which would make it necessary to install over stairwells in all such buildings automatically opening skylights which would be released through the melting of fusible links. Upon a link melting, the skylight window would drop open automatically venting the stair shaft and thus delaying the fire from entering the various rooms on the top floor.

WESTCHESTER CO., N. Y., CHIEFS DISCUSS MUTUAL AID QUESTIONS

Organization for Mutual Assistance Holds Its Third Meeting—Hose Couplings, Responsibility For Accidents on Outside Calls, Etc., Considered

THE third and last meeting for the season of the Fire Chiefs' Emergency Plan, an organization formed for mutual aid by the heads of fire departments in Westchester County, N. Y., was held at Fire Headquarters, White Plains, N. Y., at 8.30 p. m., on April 24, Chief George S. Towle, President, presiding. An interesting report was made by Chief Lemon, of Mamaroneck, on the proposed plan by which the police and fire departments of practically all of the communities of the County would be linked together by a special arrangement with the New York Telephone Company. This plan includes the use of special electrical typewriters, by means of which a general alarm could be transmitted simultaneously to all of the fire headquarters in the communities subscribing to the arrangement.

Much discussion was indulged in by the chiefs present at the meeting on the subjects of cooperation, standardization of hose threads, and the use of reducer couplings. The subject of responsibility for accidents to assisting companies came in, also, for considerable attention. It was pointed out that there were serious flaws in the county ordinances on this subject, one of which was the fact that companies assisting outside communities, in case of injury on answering a false alarm, could claim no damages from the city calling for help. The chairman assured the members that the supervisors of the county were pledged to correct such defects.

It was decided that the Executive Committee of the Plan is to meet weekly during the period of inactivity during the summer months. This committee consists of the following chiefs: Mulcahey, Yonkers; Lemon, Mamaroneck; Towle, Larchmont; Sullivan, Greenwich, Conn.; Gibson, New Rochelle; Birkett, Port Chester; Brennan, Pelham; McTavey, Mt. Kisco; Travers, Peekskill, and the officers of the Westchester County Volunteer Firemen's Association.

Those present at the meeting were. Chiefs Towle, Larchmont; Mulcahey, Yonkers; Griffin, White Plains; Steuhl, Eastchester; Sullivan, Greenwich, Conn.; Lemon, Mamaroneck; Brennan, Pelham; Bennett, Harrison; McTavey, Mt. Kisco; Barth, Elmsford; and Conway, East Port Chester. Others attending the meeting were: Commisisoner Guy A. Stewart, Jr., Eastchester; Second Assistant Chief Brenner, Harrison; Deputy Chief Peterson, Larchmont; Ex-Captain Dawkins, Port Chester, and Robert H. Lockwood, Editor, FIRE ENGINEERING, New York City.

Former Chief Arrested on Arson Charge

Ira W. Hemphill, formerly fire chief of Windsor, Conn., was fined twenty-five dollars and sentenced to fifteen days in jail, following the discovery of three small fires that were burning in the chief's home at the same time. When the fire department arrived, members of the house were throwing burning articles out of the kitchen. Firemen became suspicious at the many places where the fire originated and the county police were notified.

THOMAS F. MAGNER.

Eleven Davenport, Ia., Men May Retire—Eleven of the 69 firemen in Davenport, Ia., are eligible to retire on a pension, if they are so inclined. At present, there are eight retired firemen drawing pensions.

NEW STANDPIPE RULES ADOPTED FOR THE CITY OF NEW YORK

Board of Standards and Appeals Formulates New Regulations—To Be Published in Their Entirety in These Columns

HEREWITH is continued from the March 20 issue the new "Standpipe-Fire Line Rules" of New York City. The original rules were adopted by the Board of Standards and Appeals of that city on June 22, 1922, were amended July 20, 1923, and again on May 18, 1928. The finally adopted form as reproduced herewith, was adopted July 20, 1928. Through the courtesy of Chairman William E. Walsh, of the Board, FIRE ENGINEERING *is enabled to publish the entire new rules serially.*

These new rules or formulated largely through the efforts of Peter J. Maher, Fire Preventive Inspector attached to the Division of Fire Appliances of the New York Fire Department.

Rule 74. HOSE OUTLETS.—When practicable all hose outlets shall be placed within a stair enclosure. They shall be 2½ in. in diameter, set not less than 5 ft. nor more than 6 ft. above the floor or landing as the case may be. Outlets and racks shall be located above the floor or landing and shall not be over a run of stairs or in a stair well. When impracticable to place hose outlets within the stair enclosure, the Fire Commissioner may permit them to be located immediately adjacent to a stair enclosure, in a conspicuous place, in which case there shall be painted upon the stair side of the wall of the stair enclosure a conspicuous sign in letters not less than 8 in. in height indicating the location of the outlet. Where there is a 4-in. riser system its termination above roof shall be a 2½-in. outlet hose valve properly capped.

Rule 75. MAIN ROOF OUTLETS.—All 6 and 8-inch main riser systems which extend to intermediate or the highest roof level shall be provided with not less than three 2½-inch hose valve manifolds with male threads. Roof outlets shall be located not less than 24 in. nor more than 5 ft. above the roof and each valve shall be provided with regulation 2½-in. Fire Department caps. Where roof outlets cannot be located within a heated stair enclosure, the control valve shall be located below the roof and shall have a long stem extending above the roof with a wheel handle at the upper end. Between the long stem valve and the roof outlet there shall be a ½ in. open drip extending to a sink or a ¾ in. automatic ball drip of approved type.

In buildings not exceeding 40 ft. in height hose outlets above roof shall not be required.

Rule 76. SPANNER WRENCH.—A spanner wrench may be provided at each hose outlet valve, such wrench shall be of the gooseneck Fire Department pattern.

RULE 77. BRANCH LINE SIZE.—No branch line may be less than 4 in. in diameter, except that any branch from a riser or cross-connection to but one hose outlet may be 2½ in. if not over four (4) feet in length, and may be 3 in. in diameter if not more than twenty-five (25) feet in length.

RULE 78. NOZZLES.—All 2½-in. fire hose shall be provided with approved smooth bore nozzles 15 in. in length, the outlet at the tip to be not less than 1 in. nor more than 1⅛ in. in diameter.

RULE 79. HOSE.—Each outlet other than the roof outlet shall have attached thereto 2½ in. unlined linen hose, except that in buildings or premises that do not contain occupancies storing, handling or using inflammable motion picture films or nitro cellulose products, and which are not classified as hazardous, the Fire Commissioner may permit in addition to the 2½-inch outlet and hose the installation of 1½ in. unlined linen hose and valve. There shall not be more than 100 ft. of hose at any outlet, as required by Section 581, Chapter 5, Code of Ordinances. No single length of hose shall be less than 50 ft.

All hose used in connection with the standpipe fire line system shall be at least equal in material and construction to the type of hose bearing the approval label of the National Board of Fire Underwriters.

RULE 80. COUPLINGS.—Hose couplings for standpipe shall be equal to hose couplings of the regular Fire Department pattern and thread.

RULE 81. RACKS.—All standpipe hose shall be suspended from racks of stamped steel, malleable iron or other metal equal thereto, of approved swing type, so designed and constructed that they will permit of ready and easy release of hose for use. The racks shall be supported securely and substantially from standpipe risers or wall, except that where a cast nipple of non-corroding material is screwed into the hose outlet valve the rack may be suspended from said nipple. The minimum thickness of nipple to be 5/16 in. In no case will automatic racks be permitted.

Racks shall be not more than 7 feet 6 inches above the floor.

RULE 82. HOSE CABINETS.—Hose racks may be installed in cabinets, provided the cabinets are conspicuously located within a stair enclosure, and are of a size sufficient to accommodate the entire equipment and permit of easy handling of hose and operation of valve.

In theatres cabinets may be permitted outside of stair enclosures, provided they are conspicuous, and that during performances the cabinets are illuminated by means of an electric lamp placed inside. Each cabinet shall have a clear glass door (one panel only) without lock and shall have the words "FIRE HOSE" painted on the glass in letters not less than 2½ inches in height.

RULE 83. REGULATION AND REDUCTION OF PRESSURES.—All buildings hereafter erected over 250 ft. in height and which do not exceed 400 ft. in height from the grade to highest hose outlet shall be provided with a roof gravity tank of not less than 5,000 gallons.

Where the above described height exceeds 400 feet, fire pump and suction tanks shall be provided as described under Schedule A.

Where the pressure on any hose outlet valve exceeds 50 lbs. either approved outlet pressure reducers, set as prescribed by the Chief of the Fire Department, or the Board of Standards and Appeals, shall be provided at such outlets.

RULE 84. BUILDINGS IN COURSE OF ERECTION.—In buildings in course of erection standpipe fire lines shall be carried up with each story after the structure reaches the 7th story or a height of 85 ft., and there shall be provided an outside siamese pumper connection in a proper and accessible place. Regulation hose outlets on each story above the 2nd shall be provided as the work progresses. Hose outlets shall be provided with male threads of Fire Department pattern, with hose and nozzle attached, to at least every second outlet. The top and bottom of each riser and all cross connections shall be securely capped at all times during the progress of the work except when work on the standpipe fire line is in progress at that point. Temporary standpipe risers used in construction work and not less than 3 inches in diameter for buildings, not exceeding 400 ft. in height, and of larger diameter, in buildings exceeding 400 ft. in height, when maintained to supply water at all times, may be accepted in lieu of the regulation standpipe, provided it is equipped with hose outlets, hose and siamese as required above.

Elevators or hoists shall be provided as required in Rule 6.

(To be continued)

Siphon Type of Extinguisher on Market

A fire extinguisher that combines the principles of a sprinkler head with a device that builds up pressure within a container to force a liquid on the fire is being marketed by the Automatic Equipment Company under the name of "Firetox."

The extinguisher consists of a vessel to contain the fire extinguishing liquid, a tube that conveys the liquid from the container, a fuse that seals the liquid until the heat melts the fuse and opens the passage, a sprinkler-like head to diffuse the liquid so as to cover a large area, and a bail to hang the extinguisher from the ceiling.

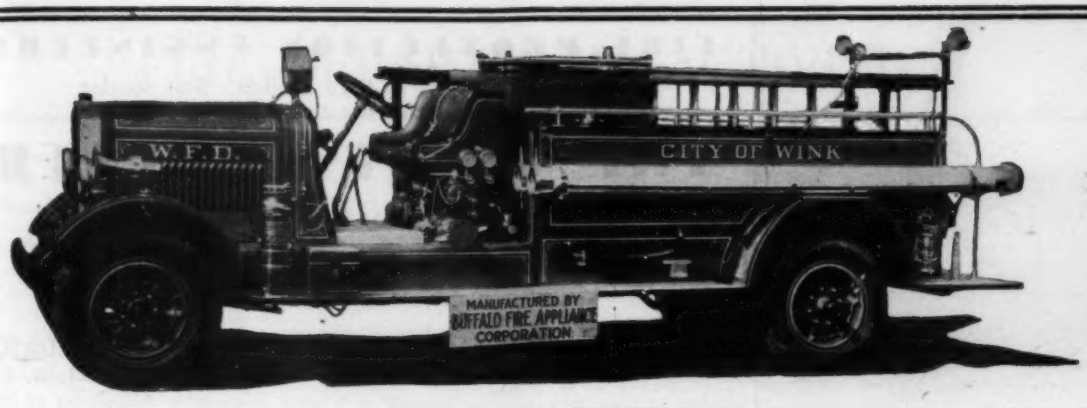
In operation, the heat of the fire causes the liquid in the container to expand so that a pressure of about twenty-five pounds a square inch is built up. The pressure forces the liquid through the siphon tube, breaking the seal and expelling the liquid at high velocity against the spreader. One extinguisher protects about one thousand cubic feet of contents. The liquid in spray form, upon coming in contact with the heated air, quickly forms a gas five times as heavy as air. This gas displaces the oxygen and thus extinguishes the fire.

Many Killed in Bulgarian Arsenal

Bulgaria suffered from the worst munition explosion ever known in that country when a blast in the Sofia military arsenal killed twenty-eight workers, mostly women.

A worker became careless in handling gunpowder near a stove in the skyrocket department. A sheet of flame shot up from the gunpowder and ignited saltpetre, sulphur and other light explosives. It is supposed that gases generated by these explosives suffocated the victims before the flames had reached the bodies. The corpses were found far from a window and evidence showed that the persons had made no attempt to escape. A wooden door that had caught on fire, barred the exit.

Somerset County Firemen to Meet in July—The annual convention of the Somerset County Firemen's Association will be held in Central City, Pa., July 22-24.



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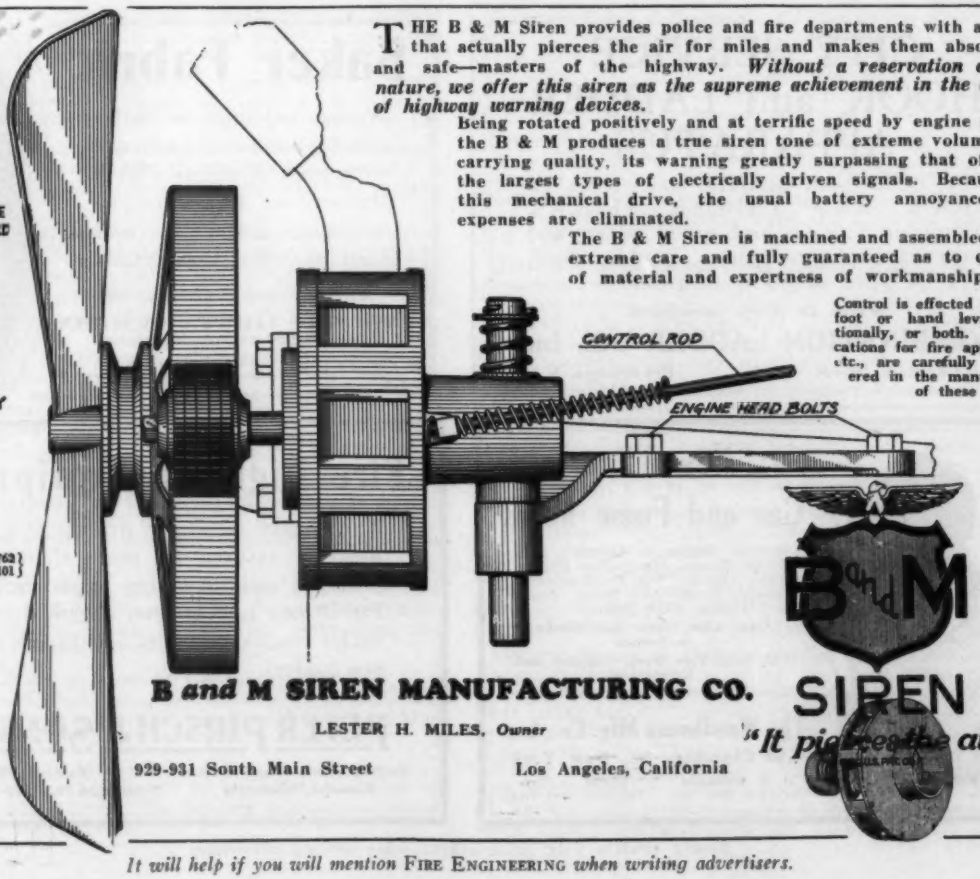

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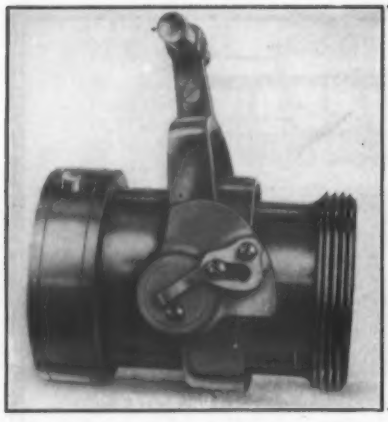

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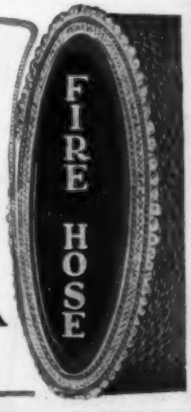

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FIRE DEPARTMENT ACTIVITIES

Saugus, Mass., May Buy Pumper—Saugus, Mass., is considering the purchase of a pumper.

Alaska Department Equipped with Fireboat—The volunteer department of Ketchikan, Alaska, is equipped with a power vessel for use as a fireboat.

Santa Ana, Cal., to Erect Fire House—A new fire house will be erected on North Sycamore St., Santa Ana. Plans have been drawn.

Fire Department Organized in Cathlamet, Wash.—A fire department has been organized in Cathlamet, Wash., by the local American Legion post.

Wants to Abolish Minnesota State Fire Marshal—A bill has been introduced in the Minnesota state legislature designed to abolish the office of state fire marshal.

Chief Smith of Nashua, N. H., Given Increase—Chief James E. Smith of Nashua, N. H., has been granted a pay increase from $3,000 to $3,500.

Valley Stream, N. Y., to Erect Fire House—A fire house is to be erected at Valley Stream, L. I., N. Y., at a cost of somewhat in excess of $25,000.

Old House in Yonkers, N. Y., Auctioned—The old city fire headquarters of Yonkers, N. Y., has been sold at auction for $58,000.

Binghamton, N. Y., to Erect Fire House—Binghamton, N. Y., has awarded a contract for the erection of a new fire station.

Tottenville, N. Y., to Have New Fire House—A second set of bids has been received for the construction of a fire house in the Tottenville section of Staten Island.

Ex-Chief of Manchester, Mass., Given Badge—H. M. King, ex-chief of Manchester, Mass., was given a gold badge in recognition of his forty years of active service.

Willard, O., to Buy Pumper—The council of Willard, Ohio, is in favor of the purchase of a pumper much larger than the one now in service.

Assistant Chief in Youngston, O., Injured—Harman Steinfurth, assistant chief in Youngstown, Ohio, suffered from a broken rib and a sprained wrist in fighting a warehouse fire.

Pumper Delivered to Grafton, Ill.—A 350-gallon pumper mounted on a Dodge-Graham chassis has been delivered to Grafton, Ill. The pumper was purchased following a disastrous fire.

Fire Apparatus Chauffeur Sued—A motor apparatus driver of the Portland, Me., fire department was sued for $9,300 because of an accident in which he was involved while driving fire department apparatus.

Butte, Mont., Firemen Want Increase—Figures are being collected to convince the city council of Butte, Mont., that the local firemen are among the poorest paid in the country. The men want an increase from $1,800 to $2,000 a year.

Boston Issues Fire Alarm Red Books—New red books have been issued by Superintendent George L. Fickett of the Boston fire alarm system, showing the location of all the boxes.

Pittston, Pa., Has New Ladder Truck—A new White ladder truck will be shipped to Pittston, Pa., about May 15. With this new apparatus, the entire department will be motorized.

Elmira, N. Y., Wants Fire Prevention Code—The local commercial organization has asked for the adoption of a fire prevention code for Elmira, N. Y. Chief John Espey and others are firm supporters of this move.

Keystone Chiefs to Meet in Gettysburg, Pa.—The Keystone Fire Chiefs Association will meet in Gettysburg, Pa., May 18 at the time when the state fire chiefs meet. More than one hundred chiefs are expected.

Denver Buys Fire House Site—A plot has been purchased in Denver, Col., on which will be erected a combined fire house and police station. The building will be two stories high and will cost $35,000.

Bluefield, W. Va., Paints Hydrants—Fire hydrants in Bluefield, W. Va., are being painted yellow with tops and hose connections in black. Formerly the hydrants were either black, green or red.

Apparatus Damaged in Dubois, Pa.—While answering an alarm, a pumper in Dubois, Pa., went out of control at a curve and before the driver regained control, four parked cars were damaged and a fireman injured.

Gasoline Stolen From Fire Apparatus—Some one drained the gasoline from the fire apparatus in Lisbon, Ia., after the tank was completely filled. The loss was not noticed until while answering an out-of-town call, the motor went dead for want of gasoline.

San Diego May Buy Fire Trucks—The county of San Diego, Cal., is considering the purchase of six fire trucks to be used as a protection during the coming forest fire season. Additional fire signal stations may also be established.

Cincinnati Firemen Given Police Power—All members of the fire department in Cincinnati, Ohio, have been sworn in as police officers with full police powers. Firemen will assist police in maintaining traffic rules and city regulations providing it does not interfere with their fire fighting duties.

Former Fireman Given Departmental Burial—A former member of Madisonville, Ky., who died in Torrence, Cal., was given a regular departmental burial, according to the late member's request. The entire department in full regalia escorted the body from the railroad station.

Firemen Injured at Brockton, Mass., Fire—Deputy Chief Frank L. Taylor, Lieut. James E. Ryoan and six firemen of Brockton, Mass., were injured, two seriously, when a roof collapsed while the men were fighting the blaze on the Dutchland Farm. Several buildings were destroyed and the damage was $75,000.

Assistant Chief of Davenport, Ia., Dead—Gus Alex, assistant chief in Davenport, Ia., was found dead in bed at the age of sixty from apoplexy. Other members of the department occupying cots on the same floor in the fire station, heard no noise during the night to indicate that Alex was in trouble. He joined the fire department February 1, 1899.

Seven Firemen Hurt in Hyde Park Crash—Seven firemen were injured when a hose wagon from Mattapan and a ladder truck from Roslindale sections, collided at Hyde Park, Boston, while responding to an alarm. Four members of the truck company were pinned under the apparatus when the truck overturned.

University of California Gives Lessons—Instruction in fire prevention for rural districts will be given in twenty-five California counties by the University of California. Some of the points to be covered are farm and home fires, equipment needed, relation of weather to fires, state and federal laws and regulations, tools, and hazard reduction.

Southern California Chiefs to Meet in Ventura—The annual convention of the Southern California Fire Chiefs' Association will be held in Ventura, Cal., June 22 and 23. The district includes the territory between Santa Barbara and the Mexican line. The visiting chiefs will be shown the citrus and walnut groves, as well as the oil fields.

Army Fire Department Protects Post—The fire department at the Inland Post, Schofield Barracks Station, Honolulu, Hawaii, consists of three fire stations manned by thirty-three men. E. J. Hogan, formerly from Fort Sam Houston, Texas, is in charge, and Maj. Josiah Kemp is post fire marshal. During the past year, the post had sixty-one fires and the total damage was only ten dollars.

Doctors Piqued at Oxygen Service by Firemen—An investigation has been started by the County Medical Society concerning activities of the Milwaukee Fire Department rescue squad. Last year the city's two rescue squads answered 507 emergency calls and in the first three months of this year, 245. The inhalator was used to save persons suffering from drowning effects, aged people with heart disease, and on infants. Those who lived wrote letters praising the firemen. The physicians state, in most cases, the afflicted would have recovered without the use of oxygen.

PROPOSED IMPROVEMENTS

Saddle River, Bergen Co., N. J.—Township Committee of Saddle River Township passed an ordinance authorizing the creation of a fire department.

Anderson, Madison Co., Ind.—Bonds in the sum of $50,000 will be issued by city for fire purchase of site and building new fire station and for purchase of equipment for Station No. 4.

West Branch, Cedar Co., Iowa—The purchase of a new piece of apparatus for use in town and rural communities is being considered.

Little Falls, Herkimer Co., N. Y.—Fire and Police Board voted to request Common Council to appropriate $7,600 for new hook and ladder truck, according to reports.

Devils Lake, Ramsey Co., N. Dak.—At election held April 2 city voted in favor of a $12,500 bond issue for purchase of fire equipment.

Owensmouth, Los Angeles Co., Calif.—Petition from Chamber of Commerce requesting erection of fire station was referred to Finance Committee.

Denton, Denton Co., Tex.—At election held April 2 city voted in favor of a $30,000 bond issue for fire department improvements.

Wanted

District Representatives for an old established and complete line of apparatus and equipment. Exclusive territories and satisfactory arrangements to competent men. Address Box 165, c/o Fire Engineering, 225 W. 34th St., New York. 5-1, 15, 29

Salesmen Wanted

To handle excellent fire department sundries. Some good territory still open. Write for particulars. P-B Mfg. Co., Inc., 4567 Swan Ave., St. Louis, Mo.

4-3-17,5-1

CONVENTION DATES

April 11-13—ARIZONA STATE FIREMEN'S ASSOCIATION. 6th Annual Convention, Yuma, Ariz. Secretary, Chief W. J. Nemeck, Douglas, Ariz.

April 24—EGYPTIAN FIRE FIGHTERS' ASSOCIATION. Meeting at Flora, Ill. Secretary, O. C. Forsman, Flora, Ill.

April 24—FIRE CHIEFS' EMERGENCY PLAN OF WESTCHESTER COUNTY, N. Y. 3rd Meeting, Fire Headquarters, White Plains, N. Y. Secretary-Treasurer, Lieut. E. Riviere, 60 Wendt Ave., Larchmont, N. Y.

April 30-May 2—NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. Fire College and Drill School, Asheville, N. C., Secretary, John L. Miller, Concord, N. C. Chairman Arrangements Committee, State Fire Marshal Sherwood Brockwell, Raleigh, N. C.

May 13-16—NATIONAL FIRE PROTECTION ASSOCIATION (International). 33rd Annual Meeting Memphis, Tenn. Technical Secretary, Robert S. Moulton, 60 Batterymarch Street, Boston, Mass.

May 27-30—OKLAHOMA STATE FIREMEN'S ASSOCIATION— 35th Annual Convention and State Firemen's Training School, Muskogee, Okla. Director of School, Chief J. E. Taplin, Blackwell, Okla. Secretary, Charles Slemp, 820 East 19th Street, Oklahoma City.

June—SOUTH DAKOTA FIREMEN'S ASSOCIATION. 13th Annual Convention, and Tournament. (Tentative) Hot Springs, S. Dak. Secretary, M. C. Sullivan, Parkston, S. Dak.

June 3-6—KANSAS STATE FIRE CHIEFS' AND FIREMEN'S ASSOCIATIONS, WOMAN'S AUXILIARY and FIRE SCHOOL. Respectively 14th, 43rd, 4th and 1st conventions and meetings, Newton, Kansas. Secretary for both Associations, Chief K. D. Doyle, Wamego,

June 5-7—OREGON STATE FIRE CHIEFS' ASSOCIATION. 10th Annual Convention, Tillamook, Ore. Secretary, Thomas Coates, Tillamook.

June 7-8—DAUPHIN COUNTY FIREMEN'S ASSOCIATION. 11th Annual Convention, Harrisburg, Pa. Chairman Local Committee, W. L. Jauss.

June 10-12—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. 24th Annual Convention, Columbia, S. C. Secretary, R. S. Hood, Sumter, S. C.

June 11-13—FIRE CHIEFS' ASSOCIATION OF OHIO. (Change of date.) 12th Annual Convention, Assembly an Exhibit Rooms, Dodge and Smith Motor Sales Company Building, Sandusky, Ohio. Secretary-Treasurer, Chief Philip J. Harty, Fire Dept., Youngstown Sheet & Tube Company, Ohio.

June 11-15—TEXAS STATE FIREMEN'S ASSOCIATION. Annual Convention, Galveston, Tex. Secretary, Olin Culbertson, Hillsboro, Tex.

June 12-13—NORTHERN INDIANA INDUSTRIAL AND VOLUNTEER FIREMEN'S ASSOCIATION. 24th Annual Convention, Bremer, Ind. Secretary-Treasurer, Hugh Russell, Bluffton, Ind.

June 12-14—MARYLAND STATE FIREMEN'S ASSOCIATION. 37th Annual Convention, Lonaconing, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 14-15—DELAWARE COUNTY FIREMEN'S ASSOCIATION. 23rd Annual Convention and Parade, Clifton Heights, Pa. Secretary, William E. Wunderlich, Lansdowne, Pa.

June 15—LEBANON COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Myerstown, Pa. Secretary, William I. Kutz, Box 233, Myerstown, Pa.

June 18-20—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 40th Annual Convention, Hendrick Hudson Hotel, Troy, N. Y. Secretary, Chief Chris. W. Noll, Fire Department, Poughkeepsie, N. Y.

June 18-20—NEW YORK STATE ASSOCIATION OF FIRE CHIEFS. 23rd Annual Convention, Binghamton, N. Y. Secretary, Chief James H. Golden, Fire Department, Cohoes, N. Y.

June 18-20—NORTH DAKOTA FIREMEN'S ASSOCIATION. 45th Annual Convention, Bismarck, N. Dak. Secretary, H. L. Reade, Bismarck.

June 19—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION. 56th Annual Convention, Ashland, Ohio. Secretary, C. R. Bowersox, 430 Richardson Bldg., Toledo, Ohio.

June 20-22—WASHINGTON STATE FIREMEN'S ASSOCIATION. 7th Annual Convention, Everett, Wash. Secretary, H. G. Jenkins, City Electrician, Fire Headquarters, Bellingham, Wash.

June 21-July 7—INTERNATIONAL EXHIBITION OF FIRE APPARATUS AND CONGRESS OF WORLD FIRE PREVENTIONISTS. Under the patronage of the President of the French Republic, at the Grand Palais, Paris; 44th Annual Congress of the French Federation, Paris. General Secretary, Commandant G. Wattremez, Grand Palais, Avenue Alexandre III, Paris.

June 22-23—SOUTHERN CALIFORNIA FIRE CHIEFS' CLUB. 2nd Annual Convention, Ventura, Cal. Secretary-Treasurer, G. E. Zimmerman, Fire Department, Coronado, Cal.

June 24-28—AMERICAN WATER WORKS ASSOCIATION. 49th Convention, Hotel Royal York, Toronto, Ont., Can. Secretary, Beekman C. Little, Rochester, N. Y. Office of Association, 29 West 39th Street, New York City.

June 25-27—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 7th Annual Convention, Hotel Taft, New Haven, Conn. Exhibits, Second Regiment Armory. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass.; Chairman, Exhibits, Chief John S. Pachl, Annex Fire Department, New Haven; Traffic Manager, Geo. F. Cobb, Boston.

July 9-11—MICHIGAN STATE FIREMEN'S ASSOCIATION. 55th Annual Convention, Sault Ste. Marie, Mich. Secretary, H. L. William, Ludington, Mich.

July 9-12—DOMINION ASSOCIATION OF FIRE CHIEFS. 21st Annual Convention, Coburg, Ont. Secretary, Chief James Armstrong, Kingston, Ont.

July 10-11—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. 9th Annual Convention, Wilmington, Del. Secretary, Sam H. Carson, Dover, Del.

July 11-12—EASTERN ASSOCIATION OF FIRE CHIEFS. (Change of date.) 2nd Annual Convention, Hotel Pennsylvania, New York City. Secretary, T. Howell Johnson, Room 602, Chamber of Commerce Bldg., Newark, N. J.

July 15-16—MONTANA STATE FIREMEN'S ASSOCIATION. 38th Annual Convention, Butte, Mont. Secretary-Treasurer, D. E. Moser, Bozeman, Mont.

July 15-19—NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. Annual Convention, Hendersonville, N. C. Secretary, John L. Miller, Concord, N. C.

July 15-20—MARITIME FIRE CHIEFS' CONVENTION AND TOURNAMENT. 14th Annual Convention, Moncton, N. B. Secretary, Captain K. J. McCrea, St. John, N. B., Can.

July 17-19—INDIANA FIREMEN'S ASSOCIATION. 12th Annual Convention, Gary, Ind. Secretary, Clem Smith, Fire Headquarters, Terre Haute, Ind.

August—IDAHO FIREMEN'S CONVENTION. Tentative, August or September, Idaho Falls, Ida. Secretary-Treasurer, Earl Heath, Idaho Falls.

August—MAINE STATE FIREMEN'S ASSOCIATION. 2nd Annual Convention (tentative, exact time to be announced later), Waterville, Me. Secretary, Earl E. Pratt, Fire Department, Auburn, Me.

August—UTAH STATE FIREMEN'S ASSOCIATION. 22nd Annual Convention (tentative, to be decided later), Tooele City, Utah. Secretary, Harris E. Anderson, Fire Headquarters, Salt Lake City, Utah.

Aug. 7-9—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 7th Annual Convention, Fullerton, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth St., San Diego, Cal.

Aug. 7-9—SOUTHWESTERN ASSOCIATION OF VOLUNTEER FIREMEN OF NEW YORK. Annual convention, Falconer, N. Y. Secretary, Royce Alden, Falconer, N. Y.

Aug. 16-17—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 46th Annual Convention, Plaza Theatre, East Hartford, Conn. Secretary D. W. Hartford, South Norwalk.

Aug. 20-23—FIREMEN'S ASSOCIATION STATE OF NEW YORK. 57th Annual Convention, Saranac Lake, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.

Aug. 26-28—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 7th Annual Convention, Gallup, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque, N. M.

Aug. 28-30—VIRGINIA STATE FIREMEN'S ASSOCIATION. 43rd Annual Convention, Lexington, Va. Secretary, E. K. Landis, Pulaski, Va.

Sept. 3-5—KENTUCKY STATE FIREMEN'S ASSOCIATION. 1st Annual Convention, Ashland, Ky. Secretary, Captain S. G. Render, 303 Speed Bldg., Louisville, Ky.

Sept. 9-11—ARKANSAS STATE FIREMEN'S ASSOCIATION. 8th Annual Convention, Camden, Ark. Secretary-Treasurer, H. D. Compton, Central Fire Station, Little Rock, Ark.

Sept. 10-12—ILLINOIS FIREMEN'S ASSOCIATION. 42nd Annual Convention, Joliet, Ill. Secretary, Assistant Chief Roy W. Alsip, Fire Department, Champaign, Ill.

Sept. 17-18—IOWA STATE FIREMEN'S ASSOCIATION. 52nd Annual Convention, Red Oak, Ia. Secretary, E. E. Parsons, Marion, Ia.

Sept. 18-19—MISSOURI ASSOCIATION OF FIRE FIGHTERS (Consolidated with former Missouri State Association of Fire Chiefs). Annual Convention, Jefferson City, Mo. Secretary, M. J. Mulvoy, 3500 S. Grand Boulevard, St. Louis, Mo.

Sept. 20-21—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 52nd Annual Convention, Atlantic City, N. J. (Tentative date, to be definitely set later by Executive Committee). Secretary, William Exall, Room 602, Chamber of Commerce Bldg., Newark, N. J.

Oct. 1-3—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 50th Annual Convention, Hotel Roosevelt Pittsburgh, Pa. Secretary, Charles E. Clark, P. O. Box 217, Wayne, Pa.

Oct. 15-17—RAILWAY FIRE PROTECTION ASSOCIATION. Annual Meeting, Toronto, Can., Secretary-Treasur, R. R. Hackett, Baltimore & Ohio Railroad, Baltimore, Md.

Oct. 22-25—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 57th Annual Convention, Hotel Tutweiler, Birmingham, Ala. Exhibits City Auditorium. Recording Secretary, Chief James J. Mulcahey, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 113 Merchants Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Selden R. Allen, Brookline, Mass.

More Firemen Urged for Clifton, N. J.—Underwriters have recommended that Clifton, N. J., add twenty-four men to the fire department, and erect an additional fire station.

Elsmere, N. Y., Might have Walk-Out—Volunteer firemen of Elsmere, N. Y., are dissatisfied with the present equipment and have stated that unless new equipment is ordered, the entire department may resign.

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NOTE—

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No toggles, no small, quick-wearing parts.

All moving parts are bronze or bronze-bushed.

The outside casing permits replacing a two-way standpipe with a steamer and two-way standpipe without digging up the ground.

An easily installed EXTENSION SECTION readily adapts them to new grade.

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CAST IRON PIPE
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R. D. WOOD & CO., Phila., Pa.

Fire Chief Endorses "Shuredry" WATERPROOFED Salvage Covers

Chief J. R. Eldridge of the Johnson City, N. Y., Fire Department says, "We are still using your 'Shuredry' Salvage Covers and have been for several years. We find them the most satisfactory equipment of this kind we have ever used in our Department."

"Shuredrys" cost less, weigh less and are easier to handle than rubber covers. They do not crack when folded.

Write for samples and prices.

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Thoroughly tailored of especially selected fabrics. Uniforms that look well, wear well and that will give entirely satisfactory service.

Reed's Uniforms are most economical because they represent full value for the amount expended.

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Builders of equipment to meet your requirements.
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Larkin shut off nozzles alone are in service in over 5,000 fire departments in U. S. and Canada.

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Saves time - *and costly hose*

No. 1. (Capacity 3 to 7 tons; weight, each, 72 lbs.)

No. 2. (Capacity 3 to 12 tons; weight, each, 116 lbs.)

Complete information and Prices on request.

It's often necessary to move apparatus at a fire. Automobile traffic hates to be held up by a line of hose stretched across the right of way.

Why ruin your hose by driving over it? Or waste valuable time cutting off and disconnecting?

The Wausau Protector is a big time and money saver—easy to handle and carry. Order a set today, or write us for particulars

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Smoke and Fume Respirators

Positive protection against smoke, fumes and gases.

Price $5, Goggles $1 extra; Canisters 50 cents

Send for catalogue.

Don'tfear Mask Co.
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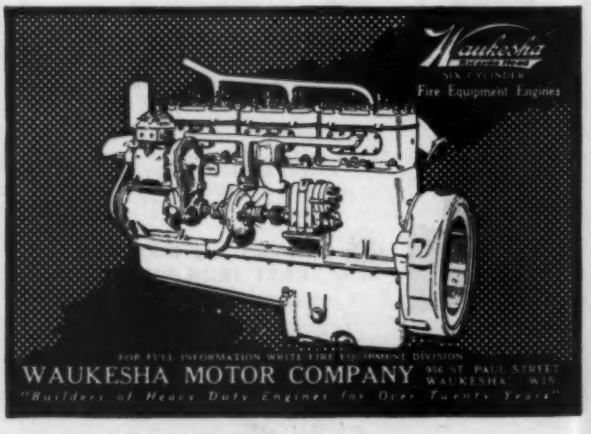

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WAUKESHA MOTOR COMPANY 866 ST. PAUL STREET WAUKESHA WIS.
"Builders of Heavy Duty Engines for Over Twenty Years"

FALSE ALARMS

THE ARMY GAME

Funds were being raised by the Alert Company to buy new uniforms for the members so that the men would be able to appear in the Valley Association parade. Many tickets were sold for a drawing for a car. But after most of the tickets were disposed of, some one must have had a change of mind for the following advertisement was inserted in the local weekly newspaper:

"Card of Thanks: The fire department wishes to thank its friends for the money that they gave for tickets on the Buick car. We have changed our mind about raffling the car."

According to a society item in a Boston newspaper, "She appeared in a foreign creation edged with vermin."

GOOD NATURED

Oh yes, the convention was a success. After the meetings, in the evening, the boys went places, saw things and acted like children just released from school. But there generally is a rude awakening, the morning after.

Just before the morning sessions, there were groups discussing the parties held the evening before.

"That guy Oscar was so lubricated last night that he sold the post office."

"Well why are you so down in the mouth about it?"

"Because I bought it."

You can fool some of the people some of the time; all of the people part of the time; but you can't fool with women all of the time.

PROPERLY ATTIRED

It was Spring, and he had just been promoted to lieutenant and he was in love. All the elements for a good story! When the time came to check out, he rushed out of the station very much in a hurry.

"Where's he going?" asked a fireman.

"He's calling on Madge."

"Well why is he wearing his business suit?"

"He means business."

While some wake up and find themselves famous, most of us generally dream we're famous and then wake up.

PERFECTLY AT HOME

She had called to see the chief about the coming civic pageant, but the chief was out. The assistant in the office, thoroughly trained in what to do in such cases, politely remarked:

"Won't you take your things off and stay a while?"

At this the young lady became very much excited.

"Say, what do you think I am?"

The main difference between a cigar lighter and some city employees is that the lighter works sometimes.

WHAT NEXT?

It was with a feeling of relief that Mike checked out. The fire house shifts are long. But he smiled when his little boy rushed down the street to meet him.

"Papa, do you know anything about girls?"

"What do you mean?" the father asked with great surprise.

The young hopeful replied, "A couple of girls walked home from school with me today and I was wondering as to their intentions."

A LONG TALE

A cat took a fancy to Station 8. All of its nocturnal chants took place in the immediate vicinity of that house, and the firemen inside were not appreciative.

One morning, as the men were dressing, a happy person said:

"Well, that cat won't holler any more at night."

"What did you do to it?" asked his friends.

"I cut off its tail."

One of the men who evidently had had some experience with cats remarked:

"You can't stop a cat from singing by cutting off its tail."

"You don't understand," was the reply. "I cut off this tail near the neck."

If automobiles stop on lonely roads in daytime it means trouble, but if they stop on lonely roads at night it may mean trouble too.

EXCESS FURNITURE

Once in a while, due to some feverish activity of a commanding officer, subordinate officers are instructed to carry on a clean-up campaign in local houses. That is why several days later a fireman said to the lieutenant:

"I miss the old cuspidor since it's gone."

The officer replied, "You missed it before. That's why it's gone."

LIFE IS LIKE THAT

Many things can happen while father is lounging around the fire station. For example daughter can grow up and also grow into the modern habits.

So one night when father returned home he found another of Life's illusions shattered. It went the same way as the Santa Claus myth.

He shouted at his daughter, "So you smoke?"

"Yes, father."

"Well, then, save me the coupons."

"Why did you keep looking at that girl's evening dress?"

"I wanted to see what it was all about."

MEN OF ALL WORK

Oil had made the old farmer very wealthy so he retired and moved to the city. In the morning, after he had spent the first night in his new home, his wife said:

"Well, Pa, hain't it about time you was getting up to build the fire?"

"No sirree," he replied. "I'll call the fire department. We might as well get used to these city conveniences right now."

Sign on drug store window: Take home a brick; you may have company.

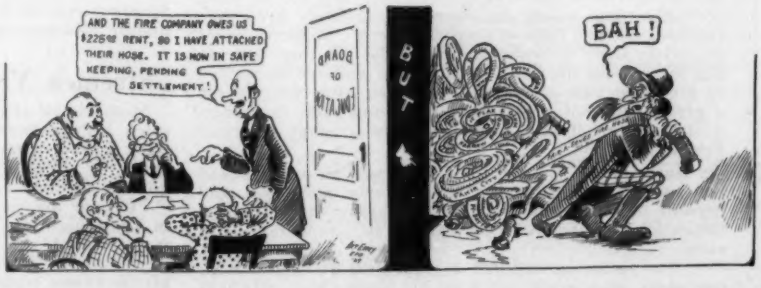
THE GAME WAS CROOKED

Dalton Village and Dalton Center were two communities adjoining each other that had not settled as to which was the more progressive. That is why baseball games between the two departments were eagerly awaited, and were very much discussed long after the match took place.

"We gave the umpire fifty bucks to let us win the game," said the manager of the village team, as the game was being fought over again in the station.

"And still you lost?" queried a friend in surprise.

"Yeah—the umpire was crooked."



—Drawing by "Art" Espry

Even Fire Hose May Be Attached for Unpaid Bills

In a community not far from the blinking lights of New York's Broadway, the fire department owed the Board of Education $2.25. Clever members of the Board seized the hose as security for the unpaid rent. Things were in a bad way. While the dispute was going on, one automobile burned. Finally a fireman found the hose and dragged it back to the fire department. And as a solution of the rent question, the old department disbanded and a new organization, free from debts, was formed. It is rumored that the hose will be stored in the homes of the firemen as a safeguard.

The Round Table

(*Continued from page 364*)

in investigating such fires. We have had quite a number of convictions in the last few years which have served as a means of preventing other fires of a questionable nature. In the past we have not had a single fire that warranted an investigation.

Peter Beckerle, Chief, Danbury, Conn.: It is understood in Danbury that anyone having a fire of a suspicious nature will have to make an explanation to the state police and also to myself. Things are made very unpleasant for the person or persons involved, until we are satisfied that everything is satisfactory.

The insurance is held up until we have given the insurance companies all the information on the case. In several instances the insurance companies have refused to make payment and in each case the courts have upheld them.

This method has discouraged a number of people of this type from having fires of a suspicious origin. At the present time we very seldom have an incendiary fire.

August G. Derra, Chief, Schenectady, N. Y.: A check-up is made on new arrivals who engage in business. Data is secured as to their standing in the city or town in which they previously resided. At the present time we have a list of fifteen, seven of whom have had fires in this city since their arrival. A close watch is kept on all of their activities and when any suspicious circumstances present themselves, we immediately notify the insurance company. The insurance companies have given us a great deal of cooperation, even to the extent of cancelling policies.

W. J. Hudson, Chief, Pleasantville, N. J.: All fires are investigated by the fire marshal. Anything found that is questionable is turned over to the fire marshal's department for investigation. After a thorough investigation has been made, a final report is turned over to the chief of department. Arrests and prosecutions are conducted by the police department.

M. S. Philip, Chief, Chicago Heights, Ill.: An arson squad has been organized by the state fire marshal but owing to peculiar conditions has not functioned very satisfactorily up to the present time.

Every fire of a suspicious nature is investigated as far as we are able to do so without the aid of a trained organization for that purpose.

We endeavor to discourage over-insurance as much as possible so as to reduce incendiary fires.

We have met with many difficulties in prosecuting those guilty of this crime due to the lack of cooperation from the proper source. The prosecutions we have undertaken have been very discouraging but we are looking for a better regime from now on.

W. C. Henry, Chief, Hugo, Okla.: I make a very thorough investigation of fires of a questionable nature. The cooperation of the police department and the state fire marshal's office is enlisted in making such investigations. I find that investigations have a tendency to stop fires for a time.

If the insurance companies would only stop paying questionable losses and force those involved to take the case to court to secure collection, this would most certainly come nearer to stopping incendiary fires than anything else. Persons setting fire to property want to collect their insurance immediately. If they have to put the case in the hands of a lawyer and are compelled to give him half of what they secure, after waiting for a great length of time before collecting their insurance, if they collect it at all, they will not attempt a second fire of this kind.

George Ruey, Chief, Canton, Ill.: We have an arson squad consisting of a state policeman, a city policeman and myself. Upon arriving at a suspicious fire a careful inspection is made of every detail in connection with same.

A few years ago we had a great deal of trouble with one party who would not keep his place clean. He was given five days in which to get his place in order, and on the night of the fourth day a fire occurred in his establishment. He then sold out and moved to another city. I found out where he had moved to and wrote to the chief of that city telling him to watch this man.

Harry A. Whiteside, Chief, Beatrice, Neb.: We have had two incendiary fires in ten years. In one of these instances we were able to trace the cause of the fire to a man who was sent to the institute for the feeble minded. The other was a negro who burned himself to death. We have been able to trace the cause of all other fires that have occurred.

By enlisting the cooperation of the boy scouts we have reduced the number of fires considerably. When one of these boys notices conditions that do not look just right or that may cause a fire, he immediately reports this to the chief of department. These boys must have twenty points to their credit in order to secure a scout badge in firemanship.

J. L. Cain, Chief, Gainesville, Ga.: Men in plain clothes are kept on night patrol duty. Upon arrival at scene of fire conditions thereabout are noted, as well as the contents of the building. Any persons suspected should be carefully watched.

Secure the cooperation of the insurance companies when such fires occur.

Julius Marker, Chief, Idaho Falls, Idaho: Investigations should be made of all fires of a questionable origin. If enough evidence is secured, a warrant should be issued and the party arrested.

E. J. Shadwick, Chief, Saratoga Springs, N. Y.: All suspicious fires together with any evidence secured, are turned over to the police department. A detective is assigned to investigate the case. This method has proved very effective.

Edward E. Chase, Chief, Lynn, Mass.: When we discover evidence of an incendiary fire we report it at once to the state fire marshal, and give him all the data we may have. If he thinks the evidence secured justifies it, he takes the case into court and tries to secure a conviction.

This, I believe, discourages the starting of incendiary fires to a great extent.

John Ely, Chief, Champaign, Ill.: We have very few incendiary fires. However, in case where I am convinced that persons have committed this crime, they are prosecuted and brought to trial.

John T. Nicolls, Chief, Malden, Mass.: All suspicious or incendiary fires are immediately turned over to the state police who make a thorough investigation of each case.

Harry J. Becker, Chief, South Orange, N. J.: We have yet to meet a condition such as you refer to in your question.

Geo. E. Wallace, Chief, Modesto, Calif.: Our practice is to make a thorough investigation of all fires and report any fires of a suspicious nature to the arson squad.

Frank Clark, Chief, Belvidere, Ill.: In the past twenty years we have had only one fire that appeared to be a set fire. In this particular case we were unable to prove anything.

Karl R. Adams, Chief, Alma, Mich.: We were not bothered with incendiary fires until recently. We endeavor to convict the guilty party. Another method we use is to caution insurance companies about over-insurance.

"Jerry" Daly Undergoes Operation

William Jerome Daly, popular fire fan and assistant secretary of the Board of Transportation, New York City, is at the Post Graduate Hospital, New York City, where he was operated on for appendicitis. "Jerry" Daly is well known in fire department circles throughout the country. He is a frequent contributor to FIRE ENGINEERING. According to last minute information, Mr. Daly is progressing nicely.

Firemen Violate Ladies' Night in Bath

Members of the New Haven, Conn., fire department have often been called upon to perform difficult tasks, but perhaps the most unusual of all was when they were called because of a fire in a Russian bath where beauty in all its glory was unadorned.

Firemen are accustomed to carry women down ladders in their nighties, but this was too much. When the firemen entered, the bathers rushed about for shelter, and the men sought sheets to wrap around the ladies. Firemen of the seven companies who responded under command of Chief Lawrence E. Reif, are still blushing when they think of the Russian bath fire.

T. F. MAGNER.

Brockton, Mass., Grants Pay Increase—All officers and men of the Brockton, Mass., fire department have been granted an increase of $200 a year.

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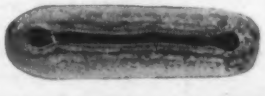

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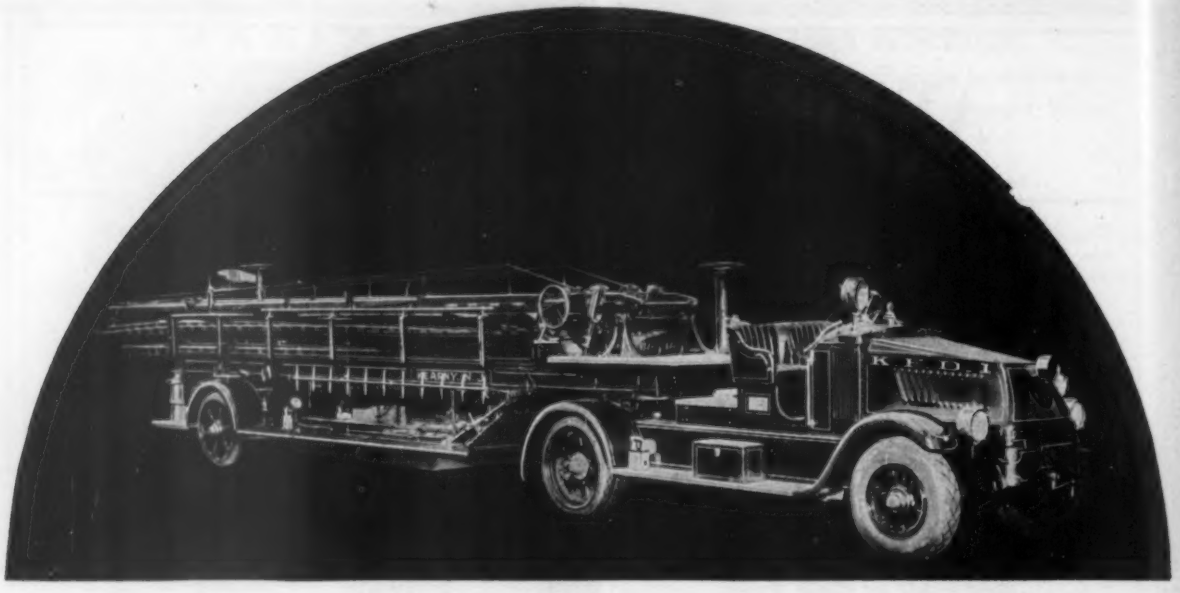

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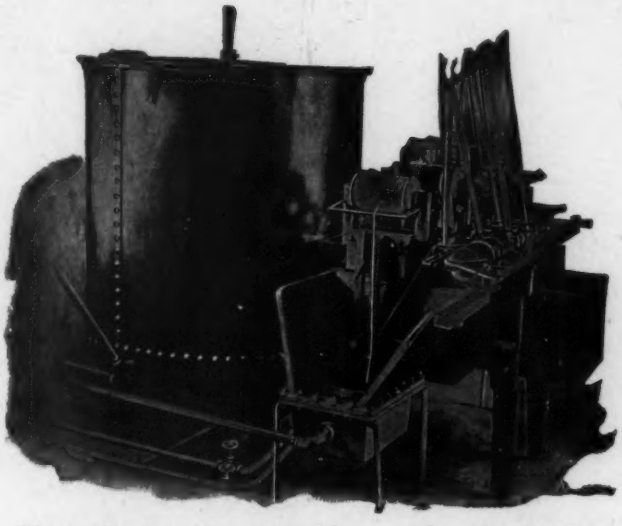

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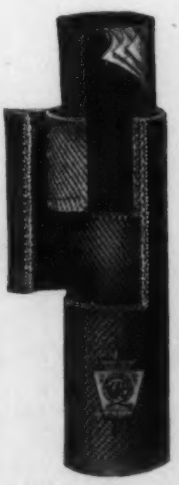

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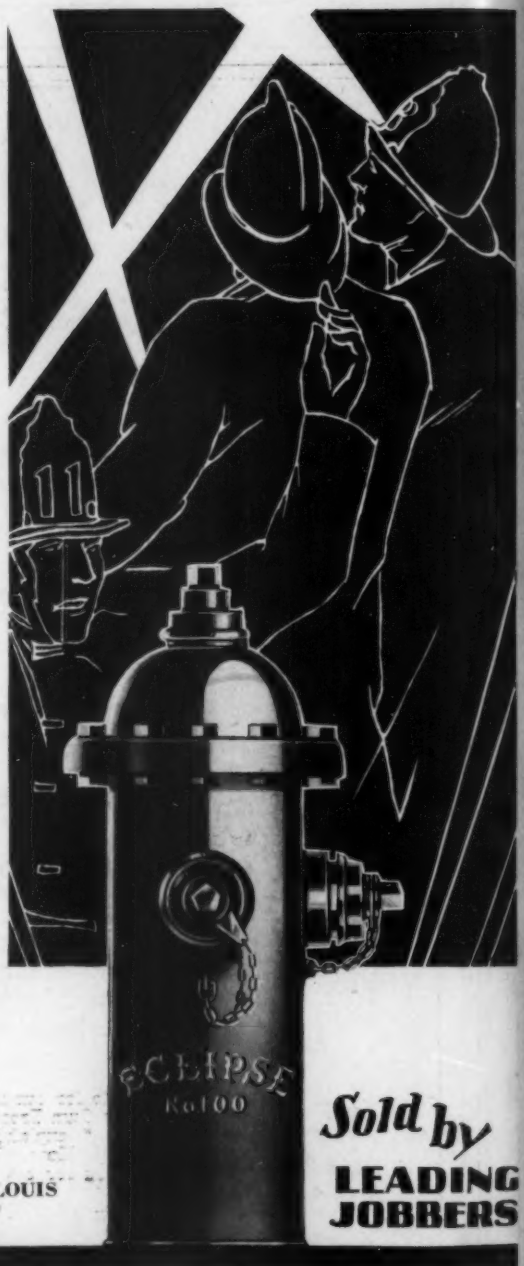

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